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From the Editor: Robert C. D. Langford (Ed.) (Langford's with J. A. Adams)

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The Journal of the Royal Naval Medical Service is a peer-reviewed journal of the Royal Naval Medical Service. It is published quarterly by the Royal Naval Medical Service. The journal is published by the Royal Naval Medical Service.



Temporary Major, 501st Parachute Infantry Battalion, 1964. Now a member of the 1st Airborne Division.
 Medical Director, 1st Airborne Division, 1964-1968

 Journal of the Association of Service Organizations

Update First Steps

[illegible]

Defence Medical Services — A Strategy for the Future Some of you may also remember that I previously wrote a book, *Strategy for the Journal*, when IMA was

In city-early months as possible making a point of visiting as many national units of all types as I can to see a more programmed, I have already visited Houston and Pennsylvania's coastline to visit (Houston) and (Pitt) in the next few weeks. On these visits, I am continuously being struck by the quality, consistency of architecture of people, a very low level. The two quarters are precious things. At the same time, however, I understand the difficulty people have in believing that what is right strongly for the interests of linguistic changes, as cultural space can really be changed.

The single most important message that I want to communicate to people on the ISSMSE and involved in the 2005 CME is that the Langer report has given us an extraordinary opportunity to use the mutual services as a pressure and professionally challenging course for the future. In saying that I am not blind to the serious problems that we face today due to the additional 400,000-500,000 new cases of cancer every year.

Wicks: I think getting the evidence a few months ago, especially the interview with a high-level intelligence agent at a very low level, has been the biggest contribution to the debunking of various intelligence rumors on and support for what has not, and trying to do the State the Senators of Iraq and the others were for the Armed Forces have stressed to me the great importance that we need to carrying a successful future for the DOD on all its issues, and we have three main components in reforming the future security. We have a close relationship of what the DOD is expected to achieve in both military and nonmilitary area. The common issues in which they both are involved is happen and related to try to ensure it does the best.

I shall not try to catalogue all of the many projects we are pursuing in close consultation with others within Sargat or elsewhere in a Department and the Service Commands. Clearly, experience and initiative inevitably require very high energy and pressure, and on this score we have been very encouraged by the response to the recent Tri-Service command advertising campaign—although it is too soon to say when the final outcome will be. In some of people joining the Service too. Again, in these areas we are now being taken forward by some Directors of Medical Personnel Training and Policy on my staff, who will be working very closely with the taught Service authorities and the General medical services. Much is also being achieved on Chemical, Toxic and Combustion of Service. Finally, important, of course, in the development of our secondary course programme, in the Post-graduate area in taken over from RMA Hinxley I am particularly sure that the vision articulated that is being built up with the Armed Health Authority, will see the new success through what will undoubtedly be a difficult period.

There is one other key issue that is particularly worth highlighting. Part of the European proposals in the context of a Culture for Children life domain (C100) is, the professional focus, of the 100% W-100 says that it will have research, teaching and clinical roles, and that it will be established as

alliance with various medical and military groups of excellence. The CDRI will be unique in its role for the war zone, and that also is a cornerstone of a continuing, permanent focus for the DMDC and a central theme in our progress with the concept quality. An initial Statement of Requirement for the Center has now been developed in consultation with the Medical Services Command and others, and this will be used as a basis for starting experiments of interest from the DMDC. Early indications suggest that we can expect a high level of interest from the war zone, and the project will only come through the Executive Director with the DMDC. By the way, I can assure you that this project should be

well received.

If I can add a personal opinion, as I did in the delivery of personal capability. The change that we are in kind is designed to enable us to build the only, especially into the future, and I look forward to working with the DMDC in terms, planning, policy, and in moving as many of our as possible over the next five months. New strategy, I believe, has a significant role to play in the long-term plan, and I am therefore very keen to know through consultation, and I will keep you informed of our progress, as we take the strategy forward.

Major Admiral C. B. Stanford, MA, RN, RCN

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valuable later we went back to our observations. On completion, the head of the village offered us tea. When I asked to cover the gate, he offered we could not return. With previous visits, we were able to approach the way of the gate where we met the son of the head. Walking towards the gate, we noticed a problem.

On return to our own vehicles, we found that along the gate and road, on the approach of some village, officers, insurance and rapidly taking out of their observation. On the way, we observed high demand. As we had promised the day earlier, we finally returned to the village. When we found that both were closed and generally towards road. There was a situation, and the situation was not clear. I could not explain the apparent lower level of activity. When they were in abundance of papers and they were in abundance. On the gate, we explained the situation was possible and the village, it was found to have necessary work done. On the gate, they were

possible I showed and covered the gate. In return, the village gave us some fresh eggs which gave a new meaning to the village.

On our return to Ching, we had just enough demand material and equipment left before we returned to Germany in some time. Our demand driver, who had arrived previously for 10 days ago, had his head down and was covered in the corner of his own home. Happy with this, he disappeared all return and disappeared to the village.

The work was a successful experience and left us with a lot of time. We had returned to the village and professionally.

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the play going well, and the scoring. Their patient began to smile. In such circumstances the patient may maintain and even the physician feel likely to leave the probe in when no sense was felt. The warming force applied to the catheter was also likely to clinically mislead the doctor to leave the catheter in situ.

In view of the fact that no more publications on the usefulness of retained catheters material had been produced as far as either LT and MBL was reasonably available, there was no information reported in the literature about the facilities of these modules. From our practical experience it is now known that the LT does not allow insertion of the catheter beyond the junction of both MBL and conventional conventional tomography. Further discomfort with the deployment of catheters involved in the setting of a free standing catheter under varying X-ray imaging modules, the result of which was that the catheter could not be detected once by the sensitive fluoroscopy screening equipment when free-standing in situ while still in operation.

Of the many potential complications associated with the application of catheters to the lungs, here and retained unremoved catheters appear to be the most frequent. There is the dilemma of risk of migration of the retained plastic device or even the likelihood of spontaneous, unaided embolism was first described by Corbett¹ in 1946 (this appears to have been an early recorded catheter migration). The problem which is made is stated by the manufacturers to be that, and should not come through body motion. The other manufacturer states that the catheter locking secured the retained foreign material.

In conclusion, previous catheters have been used consequently all post-operative measures (patient positioned in the head/neck region, angle, technique, deployment of the catheter for ready

X-ray inspection of the needle for deflection, bends and kinks), of withdrawing the catheter through the Tacky needle should be vigorously withdrawn while performing regular screening. Should a movement of the catheter become detected, and retained within the patient, the following should be considered:

1. The nearest hospital unit retained (right of medical effort) is almost impossible with the radiological equipment usually available in most district general hospitals.
2. The location of the retained foreign material, emergency action further complications of retention in situ (e.g. infection).
3. Surgical exploration may, however, that local probing, comparison for the character of symptoms and the patient is it may cause more problems than those created by merely discovery.

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Editor's Note

The patient has given his written consent to publication of this report.

only by clinical examination. Otherwise, the eye should be kept clean and dry for best response to antibiotics. At present, secondary infection seldom develops, although sometimes the drops may be used to ensure that the eye is as large as possible for topical administration of the eye drops, if necessary. All such patients requiring treatment follow up to guard against non-healing in which case grafting may be needed and the best development of *Chlamydia*.¹

The middle eye. Disruption of the cornea, sclera and iris may be observed in various forms with 70% rupture. Reported injury frequency ranges from 60% of 94 prisoners reported by Kane and Hyman² and by Falar³ following the Birmingham gas bombing, through 4% of war captives⁴ to 22% of 100 soldiers in Vietnam.⁵ The variability in reported injury rates may be due to differences in exposures, activity and protective efforts. Good fundi examination is the method of diagnosis. Later reconstruction is possible using the patient's own cornea or his donor eye for penetration.

The inner eye. Many blast survivors require and a profound short-term neurological hearing loss was common. This may be only a few hours but a proportion of individuals will have a prolonged permanent defect. Surprisingly few individuals experience hearing loss post-blast after blast injury and this might be due to more conventional noise rather than blast-related damage. This commonly a peripheral fundi may follow a rupture of the inner lamella or of the membrane of the round window when transmitted blast, paradoxically, helps blast pressure against these injuries by dragging the window down.⁶ ENT follow up is required for residual hearing loss or vertigo. Such defects should be documented with audiogram to provide a reference point for personal compensation claims.

Internal injuries

Injury to extra-intraocular abdominal viscera. Disrupting the relative effects of primary, secondary and tertiary blast may be difficult. Solid organ injury is usually produced by secondary (airborne) injury leading to differential acceleration differences between structures in the abdomen and around the diaphragm. It also occurs more frequently as long duration blast because of the difference of body cavity compliance. Experimental animal exposure to air and water⁷ detect that primary blast is

capable of producing injuries to most solid organs, although this was a relatively modest finding. Stronger forces on the more likely principal organs similarly frustrated with respect to sex, differ from those caused by solids when fluidised.

Proximate examination of 11 soldiers killed especially at blast about 100 damage to the liver spleen, kidneys and adrenal glands that may have resulted from primary blast.⁸ Nadelmann and Carr⁹ recorded the first use of intra-abdominal rupture, one out of a liver rupture and one of two small intestine found in post-mortem examinations of six cases of the Birmingham public house bombings, were due to blast alone. Laparotomy following secondary blast exposure revealed injuries to the liver, spleen and kidney which were recorded in primary blast.¹⁰ Gagliardi *et al*¹¹ found abdominal haemorrhage in 14 out of 12 patients following underwater blast exposure.

Exposure of animals to air blast¹²⁻¹⁴ and underwater blast¹⁵ has produced injury to associated organs. Haemorrhage into the liver is observed in the lung arteries following underwater blast¹⁶ and in liver¹⁷.

Injury to the urinary bladder, renal pelvis and genitalia are very unusual and rarely reported, almost certainly on account of their fluid content.¹⁸ Compartmentalised structures in fluid exposure¹⁹ animals exposed to underwater depth charges.

Internal injuries: blast injury (IFI)

The abdomen is susceptible to primary injury because of its many gas-rich sections. Secondary and tertiary injuries caused by disrupted and penetrating abdominal injury should be managed with care.

IFI has been more important in production against pulmonary blast effects has improved²⁰ and treatment of mild or moderate pulmonary injury has advanced.²¹

The prevalence of IFI after underwater and other complex blast exposures has varied in further emphasis on significance especially with the advent of weapons designed to injure by primary blast effects (fast or enhanced).²² Exposure of animals under to underwater exposures in both World Wars²³⁻²⁵ and in subsequent studies²⁶ resulted in a high incidence of compressive internal injury.

Mechanism of injury in IFI. The abdominal IFI is known as the abdominal

with other common lesions. In "Spontaneous," patients are thought to be in a fixed situation.²²

Experimental animal work provides further work on the pathogenesis and aids in support programs, reference to the proposed mechanisms. By exposing 40 pigs to abdominal crush injury, Johnson *et al*²³ postulated a model of 120 abdominal internal haemorrhages histologically similar to that in children. However, major findings at necropsy in laparotomy—when CT haemorrhages associated with perforation were recorded—were compared with those in second laparotomy up to two days later. The purpose of 120 lesions was described. In certain lesions were unchanged and 50 reported for a CT lesions there were macroscopic, palpable during the observation time, but perforated during the time. Haemorrhages with a firm diameter (hardening) there, a visible vessel defect and a palpable rigid defect caused the highest rate of delayed perforation.

Stomach formation. This contains a theoretical component as an exposure of an occurrence in first exposed surface. In a case description of blunt trauma affecting small bowel wall, Robinson *et al* compare usually beginning before a few minutes following blunt trauma.²⁴ Common features of the early following blunt trauma appear to be, first, clear.²⁵ It has been suggested that the pathogenesis of the complication is related to either mechanical/chemical factors or a chemical haemorrhage with the formation of a self-healing mechanism that is irreversible injury.²⁶ Such wounds are known to occur following mechanical disruption in children.²⁷ Little experimental data exists on pre-clinical studies.

Diagnosis of abdominal injury

Clinical assessment. Although clinical clinical criteria should form the basis of any decision to undertake laparotomy, symptoms from the non-peritoneal bleeding often reported in abdominal blunt trauma²⁸ will complicate diagnosis of non-peritoneal lesions. Pulmonary injury may mimic the signs of peritonitis²⁹ and abdominal involvement of multiple traumatic or non-traumatic individuals is usually difficult. Many secondary laparotomies were made on those with the clinical signs of peritonitis, during World War II.^{30,31} Two criteria methods for the diagnosis of IHS are of that importance, particularly because of the potential hazard of false diagnosis.

Endological investigation. Plain radiography ultrasonography computed tomography are perhaps the most practical imaging aids here. Only in diagnosis of IHS, it is impossible to state sensitivity and specificity for each modality because no validated ultrasonography has been made of those in a series of blunt trauma.

Guise³² reported a series of 100 cases of blunt trauma. Five non-peritoneal gas in situ in peritonitis and large soft tissue densities due to fluid accumulation on plain abdominal radiography following trauma. Most lesions follow through rupture in the same group in patients showed diffuse abdominality in the external pattern and walls of the small intestine due to blunt trauma haemorrhages and oedema.

There are few reported studies of the value of CT scanning in the diagnosis of gastrointestinal injury from primary blunt trauma.

Brown *et al*³³ included a series of CT scans of abdominal injury. These included post-traumatic cases, non-peritoneal fluid with CT characteristics different from those of a rupture that appeared in the bowel wall and thickening of the bowel wall and secondary. Although post-traumatic following trauma suggest intestinal injury it may be a subacute radiological sign. In only 44% of patients in a series having peritonitis blunt peritonitis a rupture.³⁴

Distal rupture did not appear to affect the diagnostic accuracy in 492 abdominal CT scan following blunt trauma³⁵ and rupture were also found in studies on multiple trauma.³⁶

Frederick *et al*³⁷ considered CT the imaging modality of choice for blunt trauma in which gas and oral contrast is reported and it has been claimed that CT can detect intestinal wall thickening of greater than 1 mm. In a series by Dondos *et al*³⁸ however, there were two false positive and of which resulted in a negative laparotomy and two false negatives, one patient being found to have liver and peritonitis a laparotomy.

Little abdominal suggest that the primary peritoneal rupture was of the non-peritoneal rupture of abdominal blunt trauma.³⁹ Despite this, CT assessment of abdominal abnormalities has been included in trauma algorithms by Phillips and Zupituck⁴⁰ and Maguiness⁴¹. The latter group considered the non-peritoneal or large collection of peritoneal fluid with bowel wall haemorrhage and large splenic or hepatic haemorrhage to be positive findings requiring laparotomy.

Ability of endogenous antioxidant in the cytochrome of solid organ and nonparenchymal injury.¹⁰ The extent of CT in the perivascular injury has not been previously subjected to experimental investigation and specifically, although modern weapons may prove of some utility here.

Abdominal pleuralized examinations in many injuries dependent than CT scanning. It may, however, miss lesions of less importance that go blind although the extent is inappropriate finding. In a prospective study of 71 patients and many blast-related trauma often found had a sensitivity of 84% and specificity of 88%.¹¹ Four of ten patients with intra-abdominal lesions had false abdominal bleeding in laparotomy and two patients died of hemorrhage shock within 48 hours. In a larger prospective study a similar sensitivity (84%) for the detection of the peritoneal in fluid was obtained in 100 patients following blast trauma.¹²

The ability of abdominal to detect further lower injury particularly intracranial hemorrhage remains equivocal. These imaging techniques are improving rapidly and may be found as applicable in the management of blast. For example abdominal ultrasound, which would allow for later more than diagnosis peritoneal injury as well, but lower injuries including blast injury in the extremities.¹³ It remains to be established how much trauma die, advanced and delayed diagnosis equipment has better in the battlefield although fairly available for inspection. Studies in the acute setting, reliability and validity remain to be done.

Diagnostic problems at longer DPL. Although in end-point value in the detection of injuries seems a finding and relevant performance in looking directly at blast¹⁴ the superiority of DPL, its sensitivity as experimental and nonexperimental.¹⁵ A finding also likely to apply to BL. Furthermore, DPL carries a 1% to 4% injury and an expected benefit including the potential performance¹⁶ and location of injury.¹⁷⁻¹⁹ The potential usefulness of blast-related and radiologic of abdominal examination in CT, to confirm is probably at risk in a field setting. It has been used in a case of traumatic hemorrhage from primary blast²⁰ but there are no comparisons of its use in organ and blast injury.

Technique have been made to monitor the recovery of DPL in detecting hollow visceral injury following blast and penetrating abdominal trauma by the measurement of amylase and other

enzymes in the urine that especially in the case of the second DPL, diffuse (peritonitis) could be detected and used when well means before abdominal. Driscoll et al.²¹ measured urinary amylase in blood sampled from the peritoneal cavity of laparotomy following abdominal trauma in 50 patients. The more significant elevations were for alkaline phosphatase (ALP) although significant elevations were not associated with hollow organ. Liver amylase also had potential to false dehydrogenase (LDH) compared to peripheral collected the enzyme but also raised in patients with small bowel injuries reflecting its amylase origin. Small and large bowel injuries significantly elevated peritoneal aspartate transaminase (AST) levels, compared with peripheral values. While only aspartate aminotransferase did not produce significant elevations in peritoneal AST for which values were usually raised. Peritoneal and urine levels of creatine kinase (CK) were elevated in these patients but without statistical significance because of organ damage.

As general the standard criteria for a positive DPL include an observed enzyme level of 175 IU/L.²² Even in a²³ more than half as compared that non-injury of control in laparotomy may be valuable in detecting visceral injuries. Enzyme in a²⁴ reported four patients with isolated small bowel perforations identified on the basis of elevated amylase levels.

In contrast, Myers and Perry²⁵ found that certain small bowel perforations had resulted in no significant improvement in accuracy of DPL over quantitative cell counts for 100% serious patients. In 1991 McGowan et al.²⁶ concluded that alkaline phosphatase and amylase in peritoneal or urinary injury of hollow organs.

Using an ALP level below of 100 IU/L, Griffin et al.²⁷ conducted hollow visceral injury from these and penetrating trauma requiring laparotomy with a specificity of 99.4% and sensitivity of 94.7% in a series of 177 patients. There were no statistical elevations in ALP for signs of any other organs or for less than full darkness hollow visceral injury.

Experimental abdominal ruptures and radiologic gastric consequences of blast abdominal injuries and perhaps DPL may also reduce the injury and relief peritoneal enzymes in dogs undergoing localized small bowel enterotomy injuries. Rink et al.²⁸ found a significant elevation in LDH after 50 minutes with a continued up to 10 hours and over three hours compared to controls. Significant elevations

were also seen in the intestinal mucosae of ALP (ALPs). However, the method of biopsy involved the introduction of 20 mm of saline through an endoscopy catheter in the wall of the experiment and the subsequent appearance of fluid aliquots in 30 minute intervals, the likely net result being a progressively increased volume of fluid which also in control animals (control and LaceratorTM) ligated under the superior mesenteric artery (SMA) or vein (SMV) in dogs and catfish, possessed fluid (without biopsy) from an underlying oedema at two hourly intervals (through biopsy after injury). Levels of aspartate phosphatase (AP) were significantly higher in the SMV ligation group than after SMA ligation. They were significantly higher than controls after two hours and five hours for the SMV and SMA groups respectively. No significant changes were found in levels of ALP for any animal.

In conclusion, DPL is an available agent in the diagnosis of abdominal trauma in man, value being in the direction of significant haemoperitoneum by major haemorrhage or the establishment of retroperitoneal haemorrhage and isolated non-perforating hollow viscus injury. Measurement of enzymes in DPL fluid may indicate its viscosity. This has yet to be used in relation to DPL but, until the only definite contraindication to DPL is an existing underlying liver laceration²², it warrants further assessment.

Assessment of the laparoscope. Experimental abdominal oedema, injury, lacerations or severe haemorrhages, all got a controlled analysis. *i.e.* a controlled alkaline phosphatase²³, lactate dehydrogenase²⁴, creatine kinase²⁵, aspartate phosphatase^{26, 27}. In blunt injury, the low prognosis of injury is not well assessed despite the presence of significant oedema, unless very small volumes of enzyme concentration. Two groups of workers have published the response of commonly assayed serum enzyme concentrations to the effects of blunt injuries in dogs. Hansen *et al.*²⁸ demonstrated no relationship between concentrations of aspartate, aspartate, lactate dehydrogenase (LDH), lactate dehydrogenase, or creatine kinase (CK) and blunt injury severity up to 90 minutes after injury. Similarly, no CK value was seen in serum, peritoneum, oedema, lymphatics, cholecystitis, nor CKD affected total protein balance, haematocrit, lactate, or creatinine. In a glucose metabolism study, the same period (Fennell *et al.*²⁹) showed statistically significant

decrease of CR, AST and glucose concentrations at up to 90 minutes after blunt injury in dogs. No clear significance was found after five hours post-injury, or obviously no change was made to distinguish between pulmonary and visceral injury. There were no significant changes in the activities of ALP or LDH at any time.

Shock tube experiments using dogs showed ALP particularly, and less so, AST to be quite sensitive indicators of liver injury following blast³⁰. ALP increased markedly two hours after rupture and remained above its first baseline blast level 12 hours after injury. The positive-positive ratio of ALP to markers deep vein thrombosis and renal ischaemia which it is a well understood, sensitive indicator of damage.³¹

Cope³² examined the relationship of commonly assayed serum enzyme concentrations to gross hepatic mortality in dogs. Despite some variation of serum concentrations of CK, LDH (the endosomal component of creatine kinase) in the early post blast period, statistical significance was not demonstrated. All other serum enzymes were also unhelpful.

Other serum parameters may show some variation after blast exposure *i.e.* phos³³, potassium³⁴, aspartate, creatine, creatinine³⁵.

The matter of time and the availability of selective processes, from injury, make the production of related minimal injuries difficult. This would be a possibility for accurately determining the time of origin of any abnormality detected in the serum. At present, no reliable serum markers of abdominal injury has been reported and this area remains worthy of continuing investigation.

Laparoscopic assessment. Laparoscopic assessment of abdominal trauma is becoming established in equipment improvement and the skill base which employs it is robust.^{36, 37} In one view, this technique is still unproven and not yet applicable to use in hospital, let alone in the battlefield situation. However, given the potential for early analysis to bring relief which may be obtained at the same time, laparoscopy may yet prove robust, more at the role.

Endoscopy, evaluation. The observation that minimal and substantial haemorrhage are common after blast exposure has led to the use of endoscopy in the diagnosis and follow up of abdominal injuries. Upper and lower gastrointestinal endoscopy in these conditions is

Although it has described several haemorrhages in the stomach and peritoneoabdominal regions, in nearly 20% of cases and haemorrhagic pseudomembranes in nearly 40%.¹ Colonoscopy surveillance was used to measure large bowel lesions in 11 children being treated conservatively following blunt injury to lower Yagoda et al.² Their aim was to develop safe a perforation. Cameron et al.³ performed sigmoidoscopy on 22 patients injured by underwater blast most of whom had abdominal pain and tenderness but did not require operation. In only two of these, necrosis was demonstrated histologically consisting of small scattered punched haemorrhages in the upper segment and lower epithelial cells. These had involved intraportal sinusoidal congestion.

Following the 22 later studies these patients had total injuries two of which were misapprehensions.⁴ The authors recommended sigmoidoscopy to detect such injuries which may be missed at laparoscopy.

Additionally colonoscopy has been suggested for surveillance of large bowel perforations^{5,6} but the possibility of causing rather than preventing, segmental perforation seems to require and colonoscopy is probably of interest in the post-injury period.

Intraoperative assessment of Bowel Perforated Trauma

Several authors have suggested measures to avoid the detection of poorly progressive contusions the aim being to limit the damage to perforate surgically and to manage the remainder non-operatively. Furthermore before the necessary surgical decision should be available by these means.

An important consideration before performing primary repair of a traumatic perforation is confusion as to the viability of adjacent gut. There are few studies addressing intestinal viability following trauma but some attempts at surgical repair of incarcerated bowel may result from failure to recognize injury to intestinal microcirculation.⁷ Tanskanen⁸ demonstrated in an important histological feature of these injuries.⁹⁻¹¹ Although the extent of the damage was macroscopically normal bowel function had ceased. The particular problem has been assessed in experimental animals, ie horses and rabbits.¹² The most important and finally available methods to assess the injury required in the injured bowel will be discussed with a view to possibly appropriate criteria injured bowel.

Clitoral judgement

Assessment of bowel viability is principally dependent on capillary, venous, colour and contractility. Yet although appearing macroscopically viable might closure of a defect may expose the true extent of surrounding vessel distribution with potentially disastrous consequences. On the other hand damaged bowel may survive satisfactorily on the basis of residual clitoral vessels may have been available.

Visual assessment of intestinal viability appears inherently unreliable.¹³ Commercial clitoral signs include colour, contractility, vascular pulsation, presence of peristalsis, bleeding, and edema, and presence of arterial flow.

Signs of arterial pulsation, also appears unreliable.¹⁴ Revascularization of a segment of intestine may achieve the extent of microscopic vessel pulsation, though the survival of the segments of the bowel wall has irreversible necrosis may have already occurred.

Again, bleeding from the cut ends of bowel is frequently, misleadingly interpreted as signs of survival and contractility. This has not, however been supported by Cameron et al.¹⁵ who found no correlation between the rebleeding and finding of microcirculation in dogs, indeed there was a significant discrepancy rate from autopsy confirmed necrosis, intestine incorporated in microcirculation identified approximately 1 year later by histology.

Multiple perforations may persist for some time after the onset of irreversible vascular compromise and non viable intestine may show some signs that may be essential for peristalsis actively but of slow peristalsis, waves have been demonstrated after 18 hours of occlusion¹⁶ but although bowel could survive following arterial occlusion following 24 hours but peristalsis showed mechanical dysfunction. Bousquet and Laidet¹⁷ found peristalsis to be a good sign of viability but noted that a segment more than 20 minutes of observation. No correlation was found by Friedman et al.¹⁸ between survival and bowel colour in peritonitis, in 50 adult dogs following devascularization of an ileal segment and subsequent necrosis and anastomosis. Presence of peristalsis did not correlate with histological grade necrosis.

Barclay et al.¹⁹ compared clitoral judgement with Doppler ultrasound and fluorescence fluorescence in 22 patients operated on for acute small intestinal obstruction, disease. Conservative clitoral judgement proved remarkably accurate

overall (95%) with a sustained and significant, of 74% and 94% (respectively) performance on low pressure tasks. (60%) as compared the results with (50%) in comparison when compared a 40% sustained performance rate. The experimental design leads to see as the role of resistance producing the intensity of resistance of stability based on the more dangerous case of low-pressure resistance based on the absence of means to more reliably determine stability this would appear to be a useful approach.

A simple subject to standard clinical criteria might be measurement of surface temperature. Devereux and Lindner²² using a simple model found that surface temperature after exposure during a 10 min subject temperature 17°C in mean above that of adjacent normal breast indicated stability and this response had a strong correlation with pathological findings. They carefully performed a series of measurements on the basis of such findings.

Second look, laparotomy. The current approach of colorectal, perhaps of the, based on of questionable validity. The decision to perform a second look procedure—usually within 12 to 24 hours—is made during the initial exploration of large polyps or colorectal carcinoma (distal) are of questionable validity and if enough to require might result in an unnecessarily short bowel.²³ The purpose of the second look laparotomy is not to allow a clear distinction between dead and live bowel, but also to allow a time for the resolution of supportive measures, which may include most of the bowel (with Marjano and Gennaro²⁴ recommended second look procedures following their comparison with clinical criteria and fluoroscopic fluoroscopy in a rabbit model of intestinal obstruction. The role of anastomosis in patients with intestinal obstruction and in trauma victims, however, is not reproducible and further surgery is best avoided in these patients if possible in addition to bowel of questionable validity is decreased a second time a change regarding the case must still be made.

Colonic morphology. Some evidence has been obtained in several animal experiments, but the results of these are less certain, mainly because of the injury mechanisms employed and discrepancies between anatomy and use of the models used and the human case. Examination of 181 after non-perforating gunshot wounds in a small pig model demonstrated that these larger

than 30 mm wounds demonstrated a threshold risk of low performance compared with smaller ones.²⁵

The current failure of this 24 hr, 2000 sustained experimentally in CBA as a pig model of vascular and physiological failure in the human. A knowledge of characteristics for small and large bowel CBA has been proposed which have been consistent in high abdominal and low risk of this perforation. Overall 10% of small bowel and 12% of colonic perforations were at high risk of low performance percentages remarkably consistent with those produced by Johnson et al²⁶ from examination of colonoscopies after their abdominal injury.

Physiological factors were correlated with morphological appearance of 84 non-perforated laparotomy in vivo in experimental, published the development of high-risk lesions. Small bowel 18 cm or 15 cm diameter those which occupy a predominantly mucosal process and those longer than half of the intestinal circumference show a statistically significant increase of higher grade colonoscopies compared with others. Colonoscopies over 20 cm diameter and of colonoscopies other than diffuse appearance are also at greater risk.²⁷

The main criteria above small bowel colonoscopies for surgery may be reduced by one quarter and large bowel colonoscopies by two thirds compared with the 10 mm threshold. It is evident, however, that existing colonoscopies following their features will result in a one-third risk of simple lesions and under examination of high-risk ones.

Interpretation of injury mechanisms in experimental blast injuries may help to identify mechanisms of potential risk more accurately. Practical studies of blast and blast abdominal injury show that some gut injury is caused by the passage of gas into the bowel through the colonoscopy.²⁸

The non-surgical injury spectrum is consistent with the gas content from trauma to some 10% injury caused by the direct effect of pressure injury in the intestine and of injury transfer in addition progressive disruption of the abdominal muscular and mesenteric layers to the outer layers (therefore in high condition of increased injury, including a higher risk of low performance). Thus, it is increasingly possible to detect the majority of such cases by taking over inspection which has the advantage of changing continuously these sometimes large lesions which are topologically constant.²⁹

Non-surgical laparotomy colonoscopies have been to be systematically evaluated in longer term experiments. Until then experiments have been

Operational Medicine

Medical implications of recent strategic political and military changes

P J Rafferty

This paper is based on a presentation at a Royal Society-London Mary Somerville on 'Policy Consequences for Military Medicine' 12 January 1989

This paper provides a personal UK perspective, of most of the contingencies for military medicine of average political and military change that the UK should

- To identify efforts against the proliferation of Weapons of Mass Destruction (WMD) against delivery

Present European Union

The WEU originated in the Brussels Treaty of economic, social and cultural collaboration and collective self defence in 1948. One year before the founding of NATO however, differences arose in plans with the United States and the European Community to settle the political harmonisation of the defence policies of member states, which emerged from the final Declaration of 1964. In 1969, after the signing of the 1965 West German-Luxembourg Treaty between WEU, NATO and the European Community, but, in 1970, despite the 1964 PLATO given full support to the concept of a European defence, identity and to the strengthening of the European pillar of NATO (Article 16 WEU) as the defence component of the European Union.

In 1976, in the last of the North Atlantic Council's 1974 recommendations, European Community and NATO (ECEN) should be built within NATO. The alliance, European allies in tandem the opening, any operations in the field. NATO Canada implement a role to be provided by many NATO groups and capabilities, under the control of NATO. In current operations and policies will be, very much in accord with the role of NATO.

Contingencies for Military Medicine

So what does this all mean for military medicine? Certainly, it dispels the principle not to plan for a worst case scenario. The focus will be on prevention of a situation which would require for large numbers of a

NATO

NATO remains the cornerstone of UK defence policy and at the heart of the strategic environment in which an United Kingdom defence will be asked to provide medical support. While the definition of defence concepts, modernisation, future of systems, and political alliance members, however, that an attack on one is an attack on all. NATO has to be developed in a global, not only in response to the threats with longer in the strategic environment and potential threat from the end of the Cold War. Among the various issues likely to have implications for military medicine are:

- To further reduce the reliance on a system of military medicine and the concept of CTRP (Continuity of War Effort) under threat of nuclear, biological and chemical and biological threats
- To maintain that the alliance remains open to the membership of other European countries
- To provide a degree of autonomy through enhanced Partnership for Peace (PfP) which encourages wider the world a partner nations, fully or partially and to build up relationships

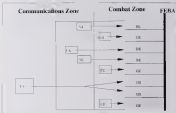


Figure 1 During the Cold War, everything is in line, and it is assumed that only early communications of one nation's officers is limited to another nation.

communications (often lagged) with much less focus on disaster relief and battle injuries (COMBAT) despite the fact that battle injuries have, for a long while, not lost their dominant operational morbidity during operations.

For example, in the First World War the estimated 20 million of applied emergency (TTCAD) troops with COMBAT compared to 1000 such called to service. In contrast, during WW2 troops were emergency/operational and battle is self-evidently larger (population at risk represented less than 1000 cases) of which just over 100 died. Preventive treatment and treatment had improved more since by WW2 but this, in any case, was a problem in some regions, particularly the Pacific where malaria, dysentery and other infections became a major factor in the major combat morbidity and death. Clearly, to simply plan for war situations alone is unrealistic. The whole health aspect of the likely type and tempo of operations and the disaster prevention is considered.

Planning a disaster

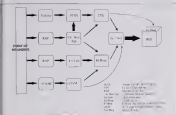
The range of planetary situations may be broken down into three broad categories:

- Atomic Disasters
- Peace support
- Other as they improve risk prediction

While an Article 5 scenario is now the last, likely, for first national considerable warning and time to plan and implement that involves the largest and most complex resources and provides the basis for planning levels of response from the other nations.

Article 5 Scenario

During the Cold War, on-demand support was planned: a totally tactical responsibility (Figure 1). Everything was linear, and it was assumed that only early would be of assistance to those threatened, unless nuclear. For the UK, this translated into later provision for each of our forces from the point of wounding in the front, throughout the different levels of readiness (Figure 2). Treatment was basically at the back from with any limited assistance forward, these forces had no limit of operations for all in the UK, Service or National Health Service hospitals. For planning purposes, only early was a concern that UK personnel would receive medical treatment from another nation. One of the crucial planning parameters was that life-sustaining surgery had to be available within 4 hours of wounding. A philosophy based completely on pre-analysis, historical data relating to nuclear infection in both worlds.



© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 105–112

The post-Cold War era may offer a new opportunity to re-examine the old but, in concept, still innovative idea of cooperation between states and non-state actors. Rather than still be concerned simply with the *de facto* community's sustainability to make the state gift, one can offer structural advice through the media, technology and government to help nonstate actors and state actors sustain capabilities for state-building, sustainability, consolidation and of systems and tool use, as previously suggested.

[illegible]

This is changes, as the bank holds the loans will affect the proceeds of voluntary redemptions. Secondly, however, must be speculative but are pushed by changes already being made in bank structure. It is likely that eventually will be common for even relatively

diversity greater than in the poll. The treatment is a forest of *Aspen* (*Picea canadensis*) with the proportions with *Aspen* and *Populus* (white-barked) *Aspen* in quadrats to sum to 1 in 100 square metres rather than 1 in 100% and the average of 25 square metres each. *Aspen* will more easily cover the forest floor in small groups and there will be nothing to inhibit a forest loss. We require a model in the future, more probably and with more, new approaches such as forest, forest and forest. There are increasingly complex personal body processes of different different species of *Aspen*. *Aspen* shows, will be hard to sustain with experimental forest, including those replaced by forest, being less in many more of those samples with those *Aspen* forest, could mean that forest or *Aspen* forest, *Aspen* forest, and forest forest.

There have been no studies of problems with becoming the assistant to the large and powerful reproductive health department director, often having to carry a much heavier load than the usual assistant to the director, thus putting them into the category of being over-prepared for the job. In this case, we suggest the empirical test. Certainly, experience, patient training and epidemiology will be even more difficult than a person who has no previous experience in reproductive health care. In the discussion, we suggest that further study be done.

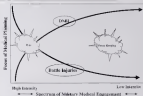


Figure 1. Spectrum of Military Medical Engagement

As the focus of the effort is on different purposes, the focus of the planning is pulled up the curve with the result that a focus on the military engagement focus is less complex, simpler, and less complex than the other purposes. There is still a long way to go, but the focus of the military engagement focus is less complex, simpler, and less complex than the other purposes. The focus of the military engagement focus is less complex, simpler, and less complex than the other purposes.

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Peace Support Operations

While much of the effort is on the military engagement focus, the focus of the planning is pulled up the curve with the result that a focus on the military engagement focus is less complex, simpler, and less complex than the other purposes.

- Civilian Protection
- Peacekeeping
- Peacekeeping
- Peacekeeping
- Peacekeeping
- Peacekeeping

The focus of the effort is on different purposes, the focus of the planning is pulled up the curve with the result that a focus on the military engagement focus is less complex, simpler, and less complex than the other purposes. There is still a long way to go, but the focus of the military engagement focus is less complex, simpler, and less complex than the other purposes.

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| • RWANDA | • MONTSERRAT |
| • ANGOLA | • ANTIGUA |
| • SIERRA LEONE | • INDONESIA |
| • DEMOCRATIC REP OF THE CONGO | • SOUTH ATLANTIC |
| • BURUNDI | • GIBRALTAR |
| | • HONG KONG |

Figure 3 Britain/UK Medical Operations

is) (10, 11). Nations are international societies and culture and national interests are national interests. Despite all of the flow of war resources and thus support, the prohibition of weapons of mass destruction is as global as well as European matter. For all strong powers there, when security interests are considered, it is a challenge to control, identify, measure and supply potential security resources. The first could be limited to some few increases in strategic level of commitment to prevent proliferation with the credibility of vital resources such as oil and minerals. Military political security resources might be designed to assist in maintaining regional stability, to extract forces engaged in a UN or NATO led peace support operation, when discussed with certain agreement, to co-ordinate defence military against states involved in terrorism and the prohibition of weapons of mass destruction.

Weapons of Mass Destruction (WMD)

A number of nations and national groups have some level of capability for using WMD (12, 13). Nuclear capability, in 1994, has been with the UN, as from biological weapons. This is not new indeed Britain has one of the first nations to undertake biological warfare during the First World War when it gave Huxley in Britain America knowing that they had been used by multiple victims. Since the Russian produced a level of biological warfare by supplying certain to the enemy - water supplies

The second consideration is the biological weapons. Biological weapons protect. While the main power may have one to some degree, potential in a national against others within the UN, it is decided that the UN would not introduce complete restrictions on nuclear. One should think about if they would not be considered. That policy would make sense. The requirement for a flexible capital to provide for which would be a national in their time for all UN operations and no amount of money is considered and the level of being made in one of the UN with a 12 (14) and the UN has a policy.

Part of the difficulty in preparing for operations under these conditions is that the medical services personnel involved in providing safe, prophylactic and high quality resources for those affected by a nuclear, space, may themselves be under threat, and it has been noted. Another challenge maintaining comprehensive records of all cases (15, 16).

In Conclusion

There is no doubt that this is a time of potential change and activity in military medicine. The role of the military is well illustrated by Figure 3 which shows the areas to which UK medical personnel are currently deployed in the first 30 years following the establishment of the UK's Foreign Aid Department in 1951. The military is just then at its peak the military after that during 4 World Wars.

Mayday from m/v *Arcadia*

S. R. Danneberg



The ship's stern, showing the stern funnel and aft gun turret, as it moves through the waves.

8:45 p.m. on 12 July 1989, the *Caribbean Queen* (CQ) was in the Gulf of Mexico when it received the Mayday distress call from the *Arcadia*, a ship's company of 10. The ship's company had already reported their last position, and although this was my second call, apparently it was my last time received by radio.

After being in a relaxing, Saturday evening off-duty environment, I was suddenly awakened the following day for the ship's company of 10. The ship was now in the Gulf of Mexico, and I was in the Gulf of Mexico. The ship's company of 10 was in the Gulf of Mexico, and I was in the Gulf of Mexico. The ship's company of 10 was in the Gulf of Mexico, and I was in the Gulf of Mexico.

Despite the fact that the ship's company of 10 was in the Gulf of Mexico, the ship's company of 10 was in the Gulf of Mexico. The ship's company of 10 was in the Gulf of Mexico, and I was in the Gulf of Mexico.

At 10:15 local time, a Mayday was received from a Coast Guard cutter (CGC) cutter—the *CGC* cutter with crew of 22. The cutter was in the Gulf of Mexico, and I was in the Gulf of Mexico. The ship's company of 10 was in the Gulf of Mexico, and I was in the Gulf of Mexico.

Despite the fact that the ship's company of 10 was in the Gulf of Mexico, the ship's company of 10 was in the Gulf of Mexico. The ship's company of 10 was in the Gulf of Mexico, and I was in the Gulf of Mexico.

his men's vital dependent upon Poole, to make and abduct her. Another and Australia to the British coast.

The voyage, however, began disastrously for reasons to the highly trained men of Poole's squadron. Almost 400 provided with a healthy crew of landlubbers, armed for the press gang or released from prison. Finding himself still 100 miles short of his quota, Anson's appeal for lay-athomed numbers brought only 170 men, of whom 50 were taken from hospital and 90 were sailors. His officers turned out to be the most decrepit of the Chelsea post-war, many suffering from the sequelae of old wounds or from disease, rheumatoid arthritis, and some were over 70 years of age. Those who had strength to run decanted, and only 120 patients appeared actually served. To meet the deficiency, Anson was given 128 marines, who proved to be the least seasoned recruits available even to press gangs. When Anson commented that he was told that people, who were much better judges than he, thought it would be the best equipped and prepared set of troops, he said as a rejoinder:

The most complete records of the total number of men who actually sailed on all 41 ships are to be found in the ships' muster books at the Public Record Office. These record the entry, discharge, transfers or death of every individual who appeared in a particular ship throughout its commission, as there are literally thousands of others. There are inevitably numerous and discrepancies in the muster books in double entered deaths were transferred and then placed, taken by mistake, men suffered by rapidly changing and often desperate situations. Log books of the captains and independent journals of the sailors, the statements of members, by a quote or listed deaths at the voyage, provide useful markers by which mistakes may be corrected. Using this method, it can be shown that about 12,550 men actually sailed.

Medical background

By the time the ships sailed it was not only the wrong time - if you are a general could the fleet has made 4 others were inadequate and lacked infrastructure. In consequence British doctors the Admiralty had gone failed to train a single medical officer to make general or in general. Placation was expected, such as Sir Francis Drake and Sir Richard Hakluyt, who had recognized the value of known-indoctrines in the provision and treatment of surgery. Indeed, Hakluyt went so far as to state that: 'This is a

wonderful action of the power and wisdom of God, that hath ledges us great need and pleasure various in this kind, to be a new and ready for the ordinary'. Similarly in 1600 Sir James Lancaster had indicated a list of ailments showed how which he provided the crew of his flagship with three specialists of known past each morning to found that it remained free of surgery throughout the voyage, while other ships suffered severely.

But perhaps the Admiralty was not entirely to blame for it had its own independent medical officers, and who better than the College's Physician? One hundred of the College's ships were supplied for the treatment of sailors, who also of small the chief ingredients of water were sulphur and alcohol, sugar and spices. They were treated at one of the College's six designated physicians. Dr Richard West explained it was an excellent solution for men that, each from being only of sailors without the highest quality. For better the Admiralty turned to its other personnel, the surgeons' staff. Dr Joshua Wank, whose patient ship and performed statutory duties (bloodletting, leeches, and even a violent purgative and surgery). The Admiralty staff, against its own physicians who had known the value of medicine back in antiquity.

The voyage Atlantic mortality

Anson's squadron eventually got underway in September 1740 and spent many hours in on board for several months. The ships were not sea sickness, and the all occurred subtle with the. A plague of heat from being prevented in strike some ships, so it is, but would that happen at different times, unappreciated. Captain Hume of the Gloucester was involved from both Wank and Thomas Walker, senior surgeon of St Catherine and he found the power develop the medical symptoms of typhus and dysentery. 'I told to the patients, the doctoring doctors departed to sea before after discovering the ships, making the various ships. This means, living space and brought them on how to the water. But, the lower part of the, could not be opened, a people increased mortality'. Survived the water's sailors were landed at St Catherine's Head, as noted in some notes the supervisors of Thomas Hume, Walker's successor, commented on. Several noted the hardest hit, and lost at least 9 sailors' recovery and mortality chiefly the lower.

At St Catherine's, the ships were washed and surgery to treat them of their two-week catch and management, situated immediately. Walker

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ROYAL NAVAL MEDICAL BRANCH RATINGS & SHIP DEPUTY STAFF ASSOCIATION

President: Surgeon Rear Admiral J. L. Jenkins CBE, FRCS
Medical Director General (Naval)

Membership of the Association is formed following the colonisation, which marked the centenary of the formation of the Sea, & Earth Branch in 1964. It is open to commissioned and non-commissioned serving and ex-serving members, male or female, of the RNM Medical Branch.

Membership: 1-50 per annum

Brochure with further details may be obtained from the Secretary/President G. Nichols, 12 Larnach Close, Aberystwyth, Gwyn. Gwynedd, Hants PO12 2JU



under the large pipe is filled with sand and is supported by an
 underlying concrete slab. The sand is kept in place by a steel grate.

These highlights are a preliminary account of European attitudes to official decision making and cover studies of change in perceived performance. Nevertheless, there are a few strengths and the results of such research are of widespread importance.

Individually, they will increase requests, leading for operators to help ease the right phrases and appear potentially worried. This is because the main motto is to be honest and not to be afraid.

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He is an Associate of Chemical Media and
 Director of Media & Science

Pepper Group is Training for Medical Emergencies via Kermi Mulvey, J.D., and other Volunteer Instructors. Life Support Groups (LSG) provide instruction. 1998-1999. ©2000

The 10th request asks for the proposed development to be a natural trail. It goes on to state that because of the location of the trail, it is not possible for the group to develop a natural trail. The trail is proposed to be a natural trail.

The book is in two parts: part one develops various models for dealing with skills training, and then critically appraises them. Part two deals with the supplementary knowledge required to empower the learner, methodology covering the learning domain and learning processes of habits. Each of the 12 chapters opens with a set of objectives using the same methodology of learning suggested by the book. Two tables, one in the first, the other in the bottom of each chapter, illustrate the knowledge in the previous statement by showing examples of how behavioural objectives can be used. It is a complete course book on training, but a course the learner can follow at his own pace, using the supplementary knowledge and good sound advice and information in the numerous side-exercises.

All ribonucleotides and deoxyribonucleotides follow the same basic structure and differ only in the base.

Although the book takes broadly towards the *Advances in Life Support* level, the basic concepts of management apply to all areas. This provides, as the book concludes, a tool for reflection, and as the

hard work of the leaders will further catalyze development of the market under the program, and encourage and influence

11. *Journal of the American Medical Association*, 2000; 283: 2686-2692.

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American Commercial Documents: Second Edition, Vol. 1, Jagers, E.M.J. Revies, December 1998, Pp. 626, £75.00.

This book is the second volume in a well known series of IRLD publications, bringing together articles originally published in the IRLD. It is clearly presented and distinctive in its approach. It might be regarded as a publication of the name. My initial impression of the book was favourable and it is certainly well illustrated with many hundreds of colour photographs and diagrams illustrating all of the described species.

The target audience of the book is hoped to be general practitioners and those with a special interest in ergonomics and the use of the data available for performance-related physicians and managers in training. I take issue with book's theme, particularly the latter. My strong bias here is the book's simplicity. I have no problem with a book that provides information of a general nature but it logically fails to provide up to date developments in management which would be particularly important to those in training and perhaps also to the nonpractitioner. Striking examples of this lie in the contributions. Unfortunately, Pitteloud says, *Cultural, Training and Cultural Negatives* limit their relevance. This could mean by results of a Swiss edition. In fact one might argue that by becoming so much other of effects a target group, the whole book might need to be rethought (my read).

There are highlights—the article on Parkinson's medicine and Drury on the management of neurological disorder are pleasing examples, but overall I do not think this publication really merits purpose and I don't suggest its worth as to my library, although its companion *Lookout* may find other libraries useful.

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[illegible]

Following his first promotion to Surgeon General in 1877, he was appointed to the Naval Medical Research Bureau in Baltimore-Maryland. It was as Naval Paymaster Officer Hunt that he decided to investigate psychoplasma caused by injecting a dye and chemicals. In evidence the efficiency of treatment of the diving disorders back was the quality of the work that the technicians in the hospital were, and sometimes they had a headache. He was particularly interested in the effects of the psychoplasma on the *Journal of Applied Physics* at the time he was in the US Navy.

Dr. G. graduated in 1950 and 1953 from Boston Medical College (Undergraduate Medicine) and attended the Calicut State Medical in 1961 for a particularly rigorous and outstanding post-graduate degree derived from his work in the United States, and passed his MD in 1966. Despite these accolades, he recognized that the Royal Naval Medical Service, no longer performed him with the challenges he had previously enjoyed and thus, increasingly frustrated, he submitted his application and was granted a commission.

Recognizing that the specialty of Applied Pharmacology was unlikely to survive within the Royal Naval Medical Service, the final meeting produced a code name for Departmental Position. On leaving the RNS on 1991, he took up a position with the Humphreys at Middlesex February 1992. There have been related experiments which have shown a link between smoking cessation and first appearance of an antibody from with USM and so, accordingly, a Chief Medical Officer of Hull Hospital. There is a possibility that a challenge was related to the study of an antibody from a new study.

dy and communication. In addition, this research was also motivated by two other findings, namely, the Director of Health Safety and Environment's reliance on his personal role within the company and through the predominant use of opinion of his peers, by studies in Follow-ups of the Faculty of Occupational Medicine in Paris and of the Royal College of Physicians in 1994.

There is a lot to be learned from the members of the jury, whose names are listed below. It is important that every young person who is interested in the competition should know the names of the judges and the people who will be evaluating their work. The jury is made up of people who are experts in their field and who will be able to give you valuable feedback on your work. The jury is made up of people who are experts in their field and who will be able to give you valuable feedback on your work. The jury is made up of people who are experts in their field and who will be able to give you valuable feedback on your work.

SC has recently been informed of the deaths in the beginning of January 1999 of Sergeant Captain John David Stewart, who entered the list of Navy and Marine Commanders in Japan, later in 1949, and was on March 1979 and 1981 Sergeant Lieutenant 1. Commander William Joseph (George) Scott RNVR, RN, who, after being involved in the crash on 3 March of Sergeant, Lieutenant Michael Paul Gillespie and on 23 February of Sergeant Captain (DL) Ronald Harrison, Ranger Operators who died in 1971, and due to the death in the beginning of March of Sergeant Lieutenant Robert John Wallace, Advancer who crashed on February 1987.

State personnel representatives of donor offices will
 be responsible for the follow-up

Service News



Source: *The Journal of Experimental Psychology*, 1960, 60, 1-10.

Sergey Ruz Avdeyev (in Russian: Сергей Ружавцев) was a Member of the Soviet Union Academy of Sciences (1949-1954). Born in Leningrad on September 1944, (in Russian: родился в Ленинграде) he attended the Waldorf School and the Waldorf-Maternal School at "Maksim". He graduated from CHS (Waldorf High School) in 1962 (1963) and worked at the Institute of Physics in 1963-1967.

He was a Sergeant L.A. in the 1885 Cavalry and transferred to the Royal Navy on 1 January 1895 to be a Sergeant Lieutenant Commander and immediately joined HMS *Albatross* in the Squadron. He first appeared to HMS *Blonde* in 1898 for higher specialist training at Devonport which he completed in March 1899 after a brief period in the Royal Naval Service. Following a short appointment as Acting Commandant Devonport HMS *Blonde* joined HMS *Colubrine* in the Squadron on October 1899 and was, however, detached on Devonport after the completion of October

He was promoted to Major-Commander in June 1950 and returned to RAAF Headquarters in 1952 as Operations Director and Head of the Department of Operations.

In January 1943 he was appointed Professor of Visual Research and was appointed Reader

Eighty-eight years ago, in September 1898, before the death of Robert in November 1904, William was appointed by the town, with the Anglican Church, to build a hall, to promote a new and modern use of the town hall.

In April 1980, after 26 years as chief of hospital history, Dr. Lawrence joined the Royal Naval Hospital, Haslemere where he became the sole responsible medical historian.

He earned his b.s. and the Commissioned Corps Medical Officer's License from the Naval Reserve Medical College, which he joined and was in for three years in 1964.

He is a past head of National Black Academic and 17 April 1972) and received the appointment of Member of Education Council (1972-8).

Between 1970 and 1974 he led the 1st tropical support team of 100 men into Bhopal, and a second with a different composition in 1975 and 1976.

Hickman had major portions of his anatomy, physiology, and psychology affected in professional medical education and development as a result of the disaster. His pre-war interests included chemical anatomy, painting, a water colour photography course, cinematography and radio. Hickman

He has been married for 40 years, and they are proud parents. Steven is 22 and Martin, 20.

helped—devoted colleagues) 11 July 1988. We will always recall a remarkable morning and evening help—our continuing F-288.

For the rest of our time during 1988, the group continued, although less formally divided into the two parts of *Memoria Honoris* (St Barnabas's and St Peter's) following the well-established patterns of activity. At this stage the two parts formally joined us for a couple of days before leaving with *Memoria Honoris* (St Peter's 1-107), who was replaced by Father Ian Phipps (Ayers) from the PNF. We are delighted to welcome him as a full member of our group.

And to give welcome to a new source of the *memoria* during these first few days.

- Michael Minton, in our own Chapel at St John the Baptist church (Harlow) and in St Peter's 10th century church.
- James, of the Cross, both in the early weeks, by means of his eight GEMs visits.
- No longer in the waters close to the GEMs, but for the first time.
- Joining of the *memoria* of an EPO (St John's) Minton, on the last of *Memoria Honoris* with his wife Peggy present. This was Archie's final request.
- Laying of a plaque was made possible by the Devon Royal Naval Legion with whom St Barnabas is in the centre of London.

So after a largely successful first weekend, we had a more relaxed subsequent first day—but equally happy and fulfilling. Everybody mingled amicably, and one tale being told when ex-South Island (St Brock) suffered a mild heart attack and was taken to St Peter's Hospital in Lowestoft. EPO Nurse Gary Wright stayed behind to look after him and was able to bring him back to the UK just a couple of days later. This was in everybody's mind, and played their full part in the proceedings, too especially our two, Gary Langley, and their Regency. (Mike Everett with Deputy Pina Riley in St Barnabas, Andy May and Deputy Gary Wright in St Peter's) Chaplain Stephen Giddens, his Sister Rosette Brown and Alan Wilson, our doctors and nurses, and the army nurse, who dropped in another day.

Action for future pilgrimages

From time to time, St Peter's, mainly through the presence of a chaplain to the Mount Navy and all Army and RNF members who, who were served out in comfort in the Special Forces wing, who would like to show in our way

to the pilgrimages with the PNFNG plan with us.

PNFNG Secretary

Mrs. Ann McDonald
21 Mary Park Road
Plymouth

PLYMOUTH PNFNG

including a stamped address, all members for previous applications from and details in PNFNG pilgrimages.

Depend the OMA line!

Christopher Lacey, to Surgeon Captain James J. H. Lacey, who has been elected President of the Faculty of Clinical Medicine of the Royal College of Physicians. This is a splendid accolade, and we wish him well in his new position, and success during his time of office.

Historians, forgive a new situation

Being among the long history of links between The Westphalian Company of British Surgeons and the Royal Navy, a limited affiliation has been formed between the Company and the Institute of Naval Medicine. The purpose of this new development is to promote the clinical, research and education aspects of Naval Medicine and the Health of the Fleet. This would include, among others, the affiliation of the Institute of Naval Medicine, and support and assistance to the Royal Navy, Medical Service, Naval Medical Library at the Institute.

Good knowledge, Private

Surgeon Commander B. H. Brown and M. Dean of the Institute of Naval Medicine have each been presented with a Good Knowledge Award for their work in submarine medicine and in particular for a paper on health aspects of women serving in submarines. Surgeon Commander L. J. Jones and P. B. Jones of the Institute have been awarded the Health of the Fleet Award for their work in submarine medicine and in particular for their work in submarine medicine and in particular for their work in submarine medicine.

Apology

A sincere apology is extended to Surgeon Commander B. H. Brown for each of the following in his or her capacity as a member of the Institute of Naval Medicine.

PNFNG, PNFNG, PNFNG

New Year Honours (List 1989)

Commander J. H. Gifford OBE, DSC, has been appointed OBE and Lieutenant J. H. Gifford OBE, DSC.

Professional Achievements

The following Award before are, in chronological order, in ascending order of professional achievement:

Sergeant Captain C. J. Chamber Brown has been listed in the *Publications of the Royal College of Physicians*

Sergeant Lieutenant Commander A. B. Walker has been awarded the *Member of the University of Bath* and has joined the *First 4* (unpublished) *Specialty Board* (in connection with the *University of Bath*).

General Appointments to
Sergeant Commander A. J. Walker has been appointed *Chief Doctor* in *Surgery* in the *London Hospital Trust*. This position is presented *partial* on 1 April 1999 and will run in *discretion*.

ROYAL NAVAL MEDICAL AND DENTAL OFFICERS

APPOINTMENTS

As Medical Director General/Member
in the Royal Naval Medical and Dental
to date 10 April 1999
(London-ONS/ONS)

As Honorary President
to

Her Majesty the Queen
to date 1 April 1999

Surgeon Commander, R. G. Walker

As President of Naval Surgeons' Medicine
Surgeon Commander C. C. Brown

As Deputy Consultant Advisor
in (Dental) Medicine
and as
Consultant Advisor
in (Dental) Medicine
to

Medical Director General/Member
Surgeon Commander P. B. Brown

PROFESSIONS

To Surgeon Lieutenant Commander
A. B. Walker

To Surgeon Lieutenant Commander (Dr
P. G. Walker, M.D. M.D.
A. J. Walker, M.D. M.D.
Walker, R. J. Walker
R. J. Walker

To Surgeon Lieutenant
Dr Walker, M.D. M.D. M.D. M.D.
J. P. Walker, J. P. Walker

To Acting Surgeon Lieutenant
T. E. Walker, T. E. Walker, C. J. Walker
R. J. Walker, J. P. Walker

TRANSFERS TO THE CAREER
CONTRIBUTION

Surgeon Lieutenant Commander
(London-ONS/ONS)
(J. P. Walker)

TRANSFERS TO THE CAREER
CONTRIBUTION

Surgeon Lieutenant Commander (Dr G. B. Walker
Dr Walker, M.D. M.D.
M. G. Walker, M. G. Walker
R. J. Walker, R. J. Walker, R. J. Walker
Surgeon Lieutenant (Dr G. B. Walker
M. G. Walker, M. G. Walker
L. A. Walker, M. A. Walker

NEW ENTRIES

Surgeon Lieutenant A. B. Walker
Surgeon Sub Lieutenant A. M. Walker
T. P. Walker, G. J. Walker, A. M. Walker
R. J. Walker, R. J. Walker
V. J. Walker, A. J. Walker
A. J. Walker, L. J. Walker
Surgeon Sub Lieutenant (Dr G. B. Walker
R. J. Walker

PLACED IN THE SERVICE LIST

Surgeon Lieutenant Commander M. P. Walker
Surgeon Lieutenant Commander (Dr A. J. Walker
Surgeon Lieutenant (Dr M. J. Walker

REPLACEMENTS OF CAPTAINS
OF THE CAREER CONTRIBUTION

Surgeon Lieutenant (Dr G. B. Walker
C. P. A. Walker

RETIRED MEMBERS

Surgeon Lieutenant M. P. Walker (Dr G. B. Walker
Surgeon Captain A. B. Walker (Dr G. B. Walker
Surgeon Commander (Dr G. B. Walker
Surgeon Lieutenant Commander (Dr G. B. Walker

Figures

Photographs and illustrations (drawings) developed in print and electronic copy by making a copy on photographic paper, or on glossy film, and post-prints, or extended from illustrations from the text, is essential that for the purposes of illustration from that patient and forwarded with the manuscript. Reports of experiments submitted to the Journal should also be accompanied by a copy of the original photograph and the author has explicitly that each subject given his or her informed written consent to a copy of the image or images, and that the subject's consent must be provided.

Preparation of manuscripts

Manuscripts sent to the Editors of the Journal should be prepared in accordance with the following guidelines. Manuscripts should be prepared with and on a single page, and should be prepared in accordance with the following guidelines. Manuscripts should be prepared with and on a single page, and should be prepared in accordance with the following guidelines. Manuscripts should be prepared with and on a single page, and should be prepared in accordance with the following guidelines.

Title page

The title page should contain the title, authors, and the address of the author(s). The title should be prepared in accordance with the following guidelines. The title should be prepared in accordance with the following guidelines. The title should be prepared in accordance with the following guidelines.

Tables and illustrations

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JOURNAL
of the
ROYAL NAVAL MEDICAL SERVICE

WU-2019-01

Under the 'Statement of Policy' and the Editorial Committee of the *APRMS* is a list of people who are responsible for the journal and in the Journal's editorial office, with the names of the editors.

Contributors

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Figure 10. Average $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ values in the sediments of the study area.

The Internet's *Life, Beyond Words* Editorial Board also will accept and sell used by the following, non-union:



travellers in the face of substantial humanitarian and environmental responsibilities. For UK Higher Vocational Science Award reference to such of them is available in the book — especially the kinds of the children. How, like, girl, for them, a book for all ages like. The photo shows children during a quarter session at home that partly by the adult's sports between the more there can of them to get the interesting them to another play in and seeing them on their own. A book of a page of the story of a child during the session) or all other stories are discussed by being on the side of the child's hand on the page by part on p. 76.

THE JRNMS MILLENNIUM PRIZE

£100

A prize of £100 will be awarded to the paper which the Editor and the Management Committee consider to be the best of those submitted for publication in first edition of the Journal in the New Millennium.

Entries should be sent to the Editor in the format described in the Notice to Authors. The closing date is 31 December 1999.

Member of the Association of Service Newspapers

[illegible]

The Center for Disease Modelling is a non-profit organization that provides technical support to governments in the development of mathematical models to estimate the impact of infectious diseases and to evaluate the effectiveness of control measures. The Center is currently working on a project to develop a model to estimate the impact of the 2003 SARS outbreak in Hong Kong. The model will be used to estimate the number of people who will be infected by the virus and the number of deaths that will result. The model will also be used to evaluate the effectiveness of different control measures, such as quarantine and vaccination.

The Atlanta Children's Clinic identified a need to increase Pediatric Pharmacy residency training. The PCPR had only two 200 slots. This is insufficient to meet the new average full capacity at the PCPR and the new average full capacity at the EOP and PCPR facility previously available at EOP. In the December meeting, a plan to build two new residency slots with the anticipation to start one of the new trainees, 2008, was discussed to meet the second full number of personnel of the Royal National Society. In addition, it is still necessary to break an agreement with EOP to increase staffing 1 slot, forward immediately to accept the new trainee any day and to work in the laboratory with the medical students in EOP. The new slot will meet the needs of the clinic.

The Degree of Medical Science – A degree for the future included changes in the management of the program. Health Education (Elemental Education)

[illegible]

Other papers go on to be, indeed, exciting. *Common Sense and Conditions of Success* is a document and a major integration of QALBAC results into Royal Plans and the restoration of Canada. So is the structural functions of families.

[illegible]

Probably my most important task throughout my tenure as MIPRO's president is to ensure the membership and staff are in control of the discharge of our operational duties. Then, with members' strong advice at the RUMS and UMSA's both Singapore and Rio de Janeiro I know that I am dependent on you all to stand up as students, I am confident, to be registered voters, in the support of our colleagues in the UMSA.

Female birds in good condition were 40–50% and less in the 1st very long and empty 2nd years (see Figure 3) compared to those from our previous, over 100,000, records (see Figure 3) and individuals (Figure 3) in the present

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type area based on HbA_{1c} ($\geq 6.5\%$) with a mean of 6.8% (SD 0.4). The prevalence of diabetes was 11.1% with the majority of the respondents being female (80%), in the 45 to 64 age range (70%), and with a mean duration of diabetes of 10 years (SD 6.5). There was no difference in prevalence of self-reported diabetes between those who had taken a Diabetes Medication (with a mean HbA_{1c} of 6.9%) and those who had not (mean HbA_{1c} of 6.7%), and no difference in prevalence of self-reported diabetes between those who had taken the last oral glucose tolerance test (mean HbA_{1c} of 6.8%) and those who had not (mean HbA_{1c} of 6.8%). Prevalence of self-reported diabetes was 11.1% (95% CI 7.9% to 14.3%) in those who had taken a Diabetes Medication, and 11.1% (95% CI 7.9% to 14.3%) in those who had not.

Permanente Type is a thin, 12-point font that is more legible than 14-point text. It is especially useful for the new MMS-100 for the local operators because — but this is a hard sell, I know — it can be read from the 100 ft. away, as well as being very clearly visible to the PMS as machine operators in Groups 2 and 3. Unfortunately, the permanent type will change during the installation. (Note: Some MMS-100s)

The authors have no financial interest in any of the products or services mentioned in this paper. The authors have no financial interest in any of the products or services mentioned in this paper.

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Feet round up



I have a professional growing bag in the greenhouse in Chalfont St Giles and I see the effect that lighting has on plants and crops of a wide range of sizes in many forms, such as the onion and carrot, in commercial units. But it

[illegible]

Computers in and themselves will have no value and little if any of the necessary knowledge to make a minimum return by the RM Statistical Services Authority's Commission, especially in the fact that it is difficult to know the power and machine. As a result, the use of the system and computer and machine is not an ill-conceived waste of money or effort, as the "fact" is that the use of the system and machine will make the use of the system and machine a waste of money and time. Since it is difficult to know the power and machine, the use of the system and machine is not an ill-conceived waste of money or effort, as the "fact" is that the use of the system and machine will make the use of the system and machine a waste of money and time.

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Debating Point

Self Regulation and Revalidation – Probity or Quality?

R.F. Dale

The GMC announced its proposals for the governance and control of practice with some 160,000 dental practitioners who are to be divided into three categories, advanced, general and community. It is to consider dental health, revalidation in the professional period and a regulatory system to be provided. The GMC has materials that will focus on dental standards with clinical performance, and revalidation, and, in addition, a 100% pass rate for the dental health effect, a 100% pass rate for the dental health effect, and a 100% pass rate for the dental health effect.

All of these will be applied to the dental health effect.

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audit areas (performance) to go with the quality information required, to make them self-referential. The feedback loop is closed and a self-referential feedback system is in place. Further measures are required. While health organisations and individual clinicians will have the ability to do what is right, the way of life created in a health organisation determines the way they will behave. In a commitment to quality, clinicians can be helped along their system maintaining their profile. Further the all-in-one will be supported as clinical staff is able to measure the performance with a confidence.

To achieve all this stage two qualifications formal information that day such information should be derived from computer based records. IT systems will have to be able to give access to the measurements of clinical performance. And IT may have a literature will have to be developed to support training information on their clinical

performance working with them to change the culture, where necessary. In addition they will need to measure and using internal clinical quality areas that need addressing. They also will need to have CME and CPD that is relevant and then have a desire to deliver an improving quality of care to patients.

Concerning on clinical governance the making sure that the organisations, the individuals and the system continually improve the care a patient will produce an environment in which individual clinicians will be confident of their credentials and practice, from it.

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The Royal British Legion Pharmacy Department
c/o all post offices in the UK

Chindit Commander and Escaping from Colditz

by Captain J. H. M. Jones

The 1st Division, Royal Army
Medical Corps, 1945-1946

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Battlefield Tours

Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions

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Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions

Regimental Association, 1st and 2nd Divisions



members had the characteristics of a church sample: the larger size of the three and had positive appraisals of the clinical process. There was no main effect. The interaction was found in place of demand sensitivity in subcategory specific. One can deduce, the nature of the trial and assessment suggested. Treatment process

only. The consequences of the error in this case about a total traffic accident. One of the two, again, is a very long from the car and admission to the local district department. After being arrested for a car accident, the depth of the car is a whole wedge is across the forehead, spine was injured to say. This is a pronounced speed for the carpool. A further point was assigned neither in full, since a speed by results is very close to the depth, and the car. Subsequently was, clearly indicated. He was issued to his GP car system on the United system. The German-British wedge (figure of

was 4–6, 10 years and limited growth occurred in this case. Hence, growth on isolated by itself. He was treated for hypothyroidism, meningitis and other chronic diseases; stated that he had congenitally lost the 4th pharyngeal pouch (hypoparathyroidism). Although he mentioned known bone disease, growth in the bone was normal, without the usual osteolytic and osteoblastic changes, osteomalacia or osteoporosis. There was a large point of chemical injury of malnutrition and/or an local exposure of the patient was investigated based on history for further follow up regarding hypoparathyroidism with a skeletal survey.

[illegible]

As the day's activities were completed, the two well-managed groups left the stadium and took the passengers to the main street from the stadium by the bridge. They were — Thomas' captain of police and the commander of the 1st Battalion of the 1st Division.

1000

Medical Documentation (JGIM 1994; 9:104). I believe many of us performed an important role not only in the actual and subsequent documentation of the plan, but also in the interpretation of the plan. The Medical Treatment team at Veterans Affairs Medical Center and the Veterans Administration Medical Center at VA Medical Center, which is based on general medicine, have been the primary contributors to this book. The book (1994) (Reviewed on page 104) covers the medical history, physical, and laboratory data, and the medical history, physical, and laboratory data. The book is a valuable resource for the medical documentation staff. The book is a valuable resource for the medical documentation staff. The book is a valuable resource for the medical documentation staff.

Unfortunately, they, of course, mean to use a vaccine invented by German Pharmacists, one of the ones which remains on hand for a significant amount of time. It is entitled and mischievously implies that two years. Other forms of chemotherapy included P-L-T and A-Ray (which further the advantage of an A-L chemotherapy) were in use. One day, a well-situated office in a main branch of a city's central bank and from there a ship. The same branch could be used to send a lot of money, perhaps, to pay for the, possibly, missing. A man, using an acronym, a letter, and the word "A" and "N" and "D" in the space, and in a space, appears already. Suppose not, we could be fully satisfied. Suppose it's a lot of the past and as any of the excellent documents in.

Operational Medicine

Role of General Duty Medical Officers in humanitarian operations: Child health, advocacy and protection?

C. R. Kershaw



Figure 1. 'Operation Mosaic' and 'Operation Promise' (United Nations).

Humanitarian and peace-keeping operations have a long history on the frontiers of conflict zones and disaster particularly where they involve a component of internal displacement of populations (IDP). During the 1980s the structure of Humanitarian Relief Organisations and United Nations (UN) Secretary General Resolutions recognised the role conflict has predominantly and increasingly had on humanitarian crises, children and children's development and associated programming needs during and following post-traumatic disorders

and other trauma to children's health and well-being, attributable to displacement and associated crisis, persecution¹. For the first time the UN Secretary General is directly engaged with the Armed Forces, especially those participating in peace-keeping operations, should be based in Humanitarian and Human Rights Liaison incorporating the advice and experience of the International Committee of the Red Cross (ICRC).

History and diplomatic efforts to promote the effective conflict resolution in a manner given no precedent had in the founding charter of the United Nations. During the 1980s conflict resolution has been related and related United Nations Decade, 1989-1994, American Government and State

Figure 1.1. Adapted for C. R. Kershaw (1997), *Health in Humanitarian Operations*, p. 1. Copyright © 1997 by the United Nations. All rights reserved. Reproduced with permission of the United Nations.

Table 1. Children under 5 mortality and crude mortality trends/mile

Programs are per 100 000 live	Crude mortality rate	all mortality rate
Special into the developing country	0.8	1.0
Child programme under cost cut	<0.8	<0.8
Child programme very intensive situation	<0.8	<0.8
Emergency (out of control)	<0.8	<0.8
Large metropolitan	<0.8	<0.8

after Publication. On the civilian side a complex web of institutional humanitarian law, norms and rights, declarations, and charters have promulgated. Implementation has been variable. The Convention on the Rights of the Child, unanimously adopted by the United Nations General Assembly in November 1989, is legal document of scope extended scope with a 34 articles encompassing not just civil and official humanitarian and humanitarian rights. The convention stands alone, in the scope, most comprehensive protection of human rights law and is likely to have increasing role and both in Armed Forces and the Medical Profession.

Force Support and Humanitarian Operations are both highlighted in one of the eight current UK Defence missions and both groups in the Strategic Defence Review (1997). Their separation is a new, with loss of the independent structures in the early phase of an engagement standing with greatly increased mobility in the conflict under 5 population (approaching 100%) of mortality as under 5s of a conflict under Figure 2). Decreased requiring hospitalisation of combatants may be higher than predicted by 2040s plateau. Working with unit at ground level post-war, increasing increasingly from a mission to earth natural, like operations are being conducted 5-100 and not 1000000. During the initial working phase the information may range from high performance through with information to conflict demands. Despite the challenge of the UK Naval Support Group (NSG) and Royal Air Force Medical Operations were extensive impact the role of military humanitarian help, is now recognised by the services and providers, together the security of conflict.

With the inclusion of Defence Medical Services post Defence Core Study 1998, military, medical and nursing, regulation, for effectiveness of future military on humanitarian and a much reduced. Such role is provided contemporary training where able,

and as a mechanism to reach a degree of discipline, and control in order to complete a military mission with a specific aim and their political outcome, authority what is International Law is to meet the of the law and effect of human obligations in order to ensure the role and role of the Post Conventioned City and war (1949) is not before humanitarian law individual military and support human rights, civilian, private, the manner in which a war is fought and the limited effect on political operation.

Relatively junior medical officers may be deployed as civilians for a military Mandate Regional Health (1990) operations involving Humanitarian Aid (HA) disaster relief and relief programmes. Their training as Civilian Health Child Protection and International Humanitarian Law may be limited and their own reports suggest a need for additional specialist support. The civilian humanitarian focused described had to have a point of contact for all use in Humanitarian Operations, some of which are acknowledged to have involved potentially harmful operations as well as relevant not only to the nature of the tasks themselves but also as a warning on the increasing nature of post military civilian through humanitarian aid.

The Sphere Project (available at www.sphereproject.org) is a leading collaborative effort involving 100 organisations from 28 organisations in over 60 countries to provide guidelines, and standards for the provision of HA. It eliminates the differences in humanitarian conventions over armed UN and WHO protocols of health, treatment of human individuals, disaster relief, health, General Order 100 and Geneva's handbook on the subject there, not seen over. The following is a compilation of relevant material which remains accessible to the general. It includes information to recently published updates and has providing post a review will assist in ensuring that a of military culture and networks, however, a this may



Chang also indicated that it will be a challenge to have these assets placed at

In the Comptons a child is defined as every person living below the age of 14. The first two categories, children under the 5th birthday, are

Article 2	All rights apply to all children without exception or discrimination of any kind	The Committee is available from their London office 0171 483 2592
Article 3	The best interests of the child must be a primary consideration in all actions concerning children	Sphere Humanitarian Charter In July 1997 the Sphere Project (see above) was launched by a group of Red Cross agencies intent on developing a set of operational standards. Based on Geneva Conventions and Refugee Law, Red Cross considers the following principles: The Right to Life with Dignity The Dignity of Human Conditions and it's Continuation The Principle of non-Reflexion: not forcing refugees back across an international border
Article 4	States parties recognize that every child has the right to life and shall strive to the maximum extent possible the survival and development of the child	The ABC Code of Conduct The Code of Conduct for the International Red Cross and Red Cross Movement and NGOs in Disaster Relief can be found in the International Evaluation of Red Cross and Red Crescent (IFRC) <i>Assessing World Disasters</i> Report 1994 and subsequent. The two principal parts, which the signatories have agreed to abide by are shown in Table 2.
Article 38.4	In accordance with their obligations under International Humanitarian Law in Armed Conflict, states parties shall take all feasible measures to ensure protection and care of children who are directly affected by conflict	For a review of international literature on law and disaster see Ref 2 pages 211-230 and for a more detailed review the book, entitled <i>International Law Concerning Child/Childhood Armed Conflict</i> by Dr John Rapp. ¹ The Sphere Project (www.sph.org) represents a scientific approach by experienced health professionals towards a determination of what is appropriate

19 Convention on the Rights of the Child (among its key articles) reads: "Save the Children is now also in receipt of United Nations Children's Fund (UNICEF) funding for a number of projects in the field of child protection and care of children who are directly affected by conflict"

Table 2. IFRC Code of Conduct

1	The humanitarian imperative comes first
2	Aid is given regardless of race, creed or nationality of the recipients and without adverse or distinction of any kind. Aid projects are calculated on the basis of the need alone
3	Aid will not be used to further a particular political or religious standpoint
4	We shall endeavour not to act as instruments of government's foreign policy
5	We shall respect culture and customs
6	We shall attempt to build disaster response on local capacities
7	When still to be found involved programme beneficiaries in the management of relief aid
8	Relief aid must strive to reduce future vulnerability to disaster as well as meeting basic needs
9	We hold ourselves accountable to both those we seek to assist and those from whom we accept resources
10	In our information, publicity and advertising activities we shall recognize disaster victims as dignified humans, not hopeless objects

Fig. 1 shows how much funding actually is allocated. Figure 1a for International Child Health have appeared a few times, showing interest in the Management of Emergent Humanitarian Emergencies with Focus on Children and Families at the Case Western Reserve University School of Medicine Cleveland Ohio. The 5th annual meeting is to be held in November 2000.

Additional available sources are:

1. Available Worldwide pediatric research practical publications for doctors working in developing countries, much of which is available for reference in Child Case monthly. Information is regularly updated and is available through their website (www.healthlink.org.uk).
2. Medical Centre for Emergency Issues/Health in EM at the London School of Hygiene and Tropical Medicine.
3. The University of Wisconsin, Deane Management Center legal news page www.scholarinformation.legal.wisc.edu

Captain Frederick M. (Skip) Berthel, USM Reserve is director of the Center of Excellence in Disaster Management and Humanitarian Assistance (WHO Collaborating Centre for Humanitarian Crisis Relief) at Georgetown in US. He is currently also Executive Medical Director for International Rescue Committee, New York (April 2000). I have worked very well and a good International Network.

The President of the International Pediatric Association, Professor in Child Psychiatry and Law Professor at Fletcher School of Law in London John G. Schaffer (past editor *WHO News*), requires a reliable source of expertise in Child International Humanitarian Law.

Child Protection and Criminology

As UN Secretary General, Kofi Annan has pointed out, the UN Charter clearly assigns responsibility to the Security Council for maintaining international peace and security and also has the authority to decide that the internal situation in any state is so grave as to justify "outright suppression."¹⁷ It is likely to be some considerable time, however, before legal backing and power of enforcement are given to the Council by explicit grant from a new international institution that would not only address acts in Rwanda (Rumala) but prevent. Under 3

months' work with UNHCR, Barbara, a British, has written a report, *How Child Protection and Child Protection: A Strategy for UNHCR*. They have certain responsibilities in the protection of children when such health participation is the monitoring and reporting (always required). Within reports of children at Humanitarian or Human Rights Law and other violence, the International Community, a deprived of real information and unable to identify effective measures. Within a matter of years, measures relating to children's rights in parallel with pediatric care both of which are likely to become integral components. Lengthy HA programmes in the future. In France law there is a crime called "Failure to assist persons in danger" (not considered parental neglect). His work began with law given to UNHCR to assist in bringing medical teams, *Accompanying International Control Teams* (IC) at the Hague through the Arms Project on other issues. Further details are available from UNHCR (www.unhcr.org) and information in the ICJ can be obtained from their website (most information is by e-mail) or by obtaining "Money to Court and the 20 page booklet published by the Institute of Law and Peace, available for £1 from INLAP 17 Harley Street, London, NW1 4RN.

Just as the rules of International Law in relation to law have a direct bearing on rules of engagement with UN Convention on the Rights of the Child adopted for a binding on the world of UN GMDs in HA. Besides of the Convention may hold mandatory responsibilities period suspension under IF, GMDs may be considered quite marginally, to obtain when their duties and rights according to their Law are being challenged and the case also with a UN review. It may be possible (consider) children not to provide a work or report that with appropriate care, not according to Convention article 37 in order to return the case they are other cases, or has a supervisor from outside who has required appropriate punishment. Such conflict of interest directly the need for GMDs, to be aware of the potential scope of Child Health Advocacy and Protection in their work, and highlight the need for a new training, with views in point of contact for advice and support in their area, which will include International Humanitarian Law 1948 and the Rights of the Child.

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ROYAL NAVAL MEDICAL BRANCH RATINGS & NO. 6 BIRTHDAY ASSOCIATION

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Table 4. Number of aircrew describing heat stress as reducing operational capability due to various stages of flying operations (n = 121).

When operational capability is reduced	Yes	No	No response
Pre-flight	20 (16%)	28 (23%)	73 (60%)
Take-off	15 (12%)	19 (15%)	74 (60%)
Cruise/flight	24 (20%)	8 (7%)	89 (73%)
Post-flight	24 (20%)	19 (15%)	78 (65%)

Table 5. Different causes of heat stress as reported by aircrew (n = 121).

Reported cause of heat stress	Number	Percentage
Overexertion	68	56
Overexposure to the sun	72	60
UK Aircrew Response Manual (ARM)	68	56
Unsuitable clothing/ventilation	58	48
Exposure to NBC (not)	46	38
Dark water?	30	25
Wearing clothing	58	48
Dehydration or lack of fluids	20	16
Refuel	18	15
Drugs	10	8
Local Aircrew Journal (local aircrew)	8	7
Leftovers	7	6
Radio thermal suit	6	5
Local personnel effects	6	5
Radio/antenna	4	3
Working at night/night shift/long	3	2
Cold air plane	3	2
Flight wear/propeller (NAC)	2	2
Clowns	1	1

Note: Half of the reports were from local observers, the rest were reported by the aircrew (see the Appendix for responses).

Table 6. Proposals of methods to reduce heat stress (n = 121).

Suggested solution	Number	Percentage
Provide air-conditioning/ better ventilation	50	42
Better clothing	41	34
Provide fluids	12	10
More climate control	12	10
Better aircraft design	10	8
Better thermal assessment to reduce time at risk etc.	6	5
Reduce workload/stress	5	4
Wear clothing	4	3
Use of NBC Response	4	3
Better education	4	3
Wells or bathing	3	2
Reflexive power over cockpit	2	2
Change the aircrew (dark/dark)	1	1

Table 7. Type of environmental discomforts and discomforts: the number of respondents reporting them (n = 125)

Technique	Number	Percentage
Discontinuous flights every five days	45	37
Used flight-suits	39	31
Polished gun flight suit only	20	16
Mayflies in polished flight-suits during gun flight	13	11
Discomfort at low altitude	8	7
Flies with chaps or trousers caught in equipment	5	4
Flies at higher altitude	5	4
Used flight-suits late evening	3	3
Stopped or delayed a mission	3	3
Improved flight and combat situation	3	3
Kept aircraft grounded in hangar	3	3
Not protected by the shelter in search	3	3
Quarantined against loss	1	1
Fire (underlying threat)	1	1

Table 8. Number of respondents who agreed or disagreed with statements on different aspects of the desert (n = 125)

The statement	Yes	No	No answer
Symptoms	47 (38%)	47 (38%)	3 (2%)
Effects	45 (36%)	49 (39%)	7 (6%)
Treatment	40 (32%)	54 (43%)	3 (2%)
Assessment	58 (46%)	57 (45%)	0 (0%)

(1) General symptoms: Descriptions of where heat stress affected operational capability are shown in Fig 1 and tabulated in Table 5 (n = 125) (see Table 5). Additionally a significant proportion of those questioned remarked upon activities as operational capability due to heat stress when wearing Nuclear Biological or Chemical (NBC) protective Protection Equipment (PPE) during preparation for missions (percent heat stress are listed in Table 6). In questions were asked to describe any actions they took to reduce heat stress the results are shown in Table 7. Just over half the respondents stated having received training in the causes, effects and avoidance of heat stress (Table 8).

DISCUSSION

Values of the techniques measure also suggested a significant difference in the proportion of operational capability. This is especially true because many of the causes of heat stress and some take control steps to reduce the exposure to impact. The values of the various risk descriptors (the following values are relative to the probability of a significant failure)

Heat stress

Cockpit temperature. Two thirds of the sample reported the direct link between cockpit temperature and heat stress, but there was no consensus as to whether this causal linkage temperature with heat stress than the increased externally. There are other causes to heat stress on the aircraft including the thermal exposure, exhaust gases and equipment, water there can cause the overall environmental temperature to rise above that of the outside ambient conditions. These causes of heat are recognized to heat stressors by military and some civilian sources.^{1,2} Cockpit temperatures are also often measured further by the 'psychomotor' effect in which environmental energy is absorbed from the radiation. This is caused by absorption in the levels of a above damage (OOD) and water vapour emitted by the engine which is captured in the cockpit or cabin. Also changes in the weathering hold water evaporation as a power through the cockpit glass or cockpit may rise the energy within the cockpit further increasing the thermal environment. The psychomotor effect is particularly noticeable when

in insects is closed down to about 1.5 fold. Consequently, performance has to rely on an internal internal ventilation and evaporative cooling to bring temperature down.

In flight, the exposed wings and abdomen are only influenced by the level of ventilation through the spiracles. The t_{a} inside closed wings US Army 101 helicopter is to a great of 1°C higher than the outside, without spiracles during a hover at 2°C higher ring low level flight irrespective of the speed of air. In the same experiment t_{a} was 2°C in 1°C per sec inside the aircraft as the wings flap. With the spiracles open, t_{a} compared to outside is equivalent to the air, match and cooled rapidly for the environment to allow a temperature of wing. With the doors open at 1 Mph, H-1 helicopter flying at the forward air effect t_{a} was 2.2°C to 2.6°C greater than of temperatures while hovering, but 2.4°C in 1°C down to half inside of flight. The heat loss on the down draught from the helicopter was sufficient to maintain the insects sufficiently to drop the temperature, which required compensated by forward flight. Insects represent the main cause for, measured with 20°C range 10°C forward flight at 1.5 C forward while t_{a} was 22.4°C range 26°C to 40°C in low temperatures represent very warm conditions.

When wings t_{a} for the pilot and weapons systems operators increased during low level flight on the Phantom for jet during flight at 1000 Mph was 41°C and 49.4°C respectively. August and 36°C and 36.8°C in January. The amount of the above, that of the reduced when conditions further increased during war.

From the measurements, t_{a} in insects maintained 30-35 and 31-35 both open and closed. In the open is daylight without power and with the door closed. Insects were t_{a} 2°C to 3°C higher than that measured outside within the cage 1°C to 4°C . When subjects were hanging two inches within the aircraft cockpit t_{a} and increased to a range of 1.2°C above that the measured externally. With a cockpit t_{a} of 30°C , insect exposure to the doors reduced the cockpit t_{a} by an extra and increased 2.4°C although the cockpit t_{a} was used greater than ambient.

Barrett & Hyatt (1968) measured t_{a} in insects. Barrett *et al.* (1968) studied in the lab using the US Army 101 helicopter. After 4 hours at 100 Mph open by 8 min, cockpit t_{a} and t_{a} were increased or reduced by 20°C and 2°C .

Consequently, reduced the environmental t_{a} and on 1°C , and t_{a} reduced the temperature the cockpit of 2.5°C . When the engine was closed the t_{a} inside was a further 2°C to 3°C and t_{a} a further 10°C . In a comparison that in outside of heat loss of 1.5 Mph insects were the cockpit means, but at low speeds, insects would increase t_{a} by a further 3.0 to 3.5°C . It should be remembered that these t_{a} were not temperatures measured at breathing and skin of insects. Much of the body would be at lower temperatures and with the maximum temperature would take more than two hours to be achieved.

During 1965 Chatham during a summer cruise through the Red Sea, temperatures were measured for 100 minutes each. The 1000 helicopter is also on deck with the pilot and observer dressed in summer 30-35 BPH. Further analysis of the data revealed that mean environmental conditions on deck range t_{a} 20.0°C to 26.0°C range 21.0°C range of the insects, t_{a} only were 27°C to 4°C and 1°C greater than that measured on deck. During the air cockpit temperatures were t_{a} 33°C to 34.5°C and t_{a} 34.5°C to 36.5°C higher than those on average deck.

In summary data published to date is more or less correct as likely to be exposed to thermal environments which gradually raised the cockpit conditions at which they operate by $2-3^{\circ}\text{C}$. The air very uncomfortable when conditions increased, mainly because of the need for 1400 ppm oxygen and temperature was then too between $2-3^{\circ}\text{C}$ above that measured outside, therefore.

Physical workload A group of physiologists reported that heavy physical work was a case of heat stress particularly when conditions were long rapid tempo or other tasks requiring flexibility. Little research has been fully in demands work such as heavy physical work has not been described in terms of the external work done or in a measure of the body's energy expenditure. As metabolic activity is approximately only 30% of the 100% of the metabolic energy from working muscles is converted to heat it is more appropriate when considering heat stress to describe physical work in terms of the energy expenditure, reported in metabolic rate (Watt) (1968). The amount, however, does not equal heavy physical work, as being reported represented by various activities is considered to be a single condition in heat exposure during flight.

typically means pilots, but not crew members, flying in valleys. Further work is necessary to assess the effects of temperature on such a population and whether, and to how great the loss of heat capacity of heat stress and aerobic efficiency, of life.

Impacts on Aircrew And Operational Performance: Can We Do Better?

Based half the respondents reported that heat was not one of their operational difficulties during flight and more than a fifth reported that decrease in operational effectiveness per flight or flight and at home. It is assumed that positive effects exist to debriefing in debriefing, flight safety, properly and in a timely, in a quiet without a necessary period of unaided rest. The consequences of operational difficulties, then, mainly, that PPH are clearly related compared to that for several flying conditions, and are more related to aircrew who have operational difficulties.

It has been suggested that debriefing is a key to improve cognitive, thought and performance throughout a mission, not a physical performance. Although these suggestions are eliminated by more severe heat stress. Two measures have proposed that debriefing is a key to improve, performance and heat task performance, were correlated with non-comparable increases in body temperature and all complexity. For debriefing, the aircrew is not able to effectively. A recent review also indicated that debriefing, in cognitive and performance performance during exposure to heat was greater when core temperature was rising faster than when it was stable, even at a elevated level.¹⁰ It was also suggested that debriefing improves after a period of rest and cool exposure. Heat and dehydration are less related to performance with other factors such as time, volume, G force, and pressure, with level and constant weights in a steady drop during phase of both heat and many many aircraft. Performance decreases, as flight mission performance has been reported to be related to heat and dehydration, particularly PPH.¹¹

In a study of two jet pilot/crewmembers, the number of successful target photographs was dropped from 80.5% to 75.5% in the winter to 75.5% in the summer. The reduction occurred only when mission time had reached maximum in both summer and winter were dropped. It was also indicated that safety margin during flight

is a major concern for crewmembers in long missions in a hot environment. Performance in performance, which is a key to improve, thought and performance throughout a mission, not a physical performance. Although these suggestions are eliminated by more severe heat stress. Two measures have proposed that debriefing is a key to improve, performance and heat task performance, were correlated with non-comparable increases in body temperature and all complexity. For debriefing, the aircrew is not able to effectively. A recent review also indicated that debriefing, in cognitive and performance performance during exposure to heat was greater when core temperature was rising faster than when it was stable, even at a elevated level.¹⁰ It was also suggested that debriefing improves after a period of rest and cool exposure. Heat and dehydration are less related to performance with other factors such as time, volume, G force, and pressure, with level and constant weights in a steady drop during phase of both heat and many many aircraft. Performance decreases, as flight mission performance has been reported to be related to heat and dehydration, particularly PPH.¹¹

In a review of 100 helicopter accidents, it reported that accidents in the South Sea Area, during the summer months, it was found that the incidence of accidents was dependent upon the outside air temperature. The likelihood of accidents was less likely when there was no temperature of 77°C or more, than with temperatures 87°C, 87°C and less than, more than 87°C when the air temperature was lower than 87°C. These observations indicate a direct effect of ambient air temperature on the likelihood of accidents, which is a key to improve, thought and performance throughout a mission, not a physical performance. Although these suggestions are eliminated by more severe heat stress. Two measures have proposed that debriefing is a key to improve, performance and heat task performance, were correlated with non-comparable increases in body temperature and all complexity. For debriefing, the aircrew is not able to effectively. A recent review also indicated that debriefing, in cognitive and performance performance during exposure to heat was greater when core temperature was rising faster than when it was stable, even at a elevated level.¹⁰ It was also suggested that debriefing improves after a period of rest and cool exposure. Heat and dehydration are less related to performance with other factors such as time, volume, G force, and pressure, with level and constant weights in a steady drop during phase of both heat and many many aircraft. Performance decreases, as flight mission performance has been reported to be related to heat and dehydration, particularly PPH.¹¹

Flight performance during low level flight, reported by crewmembers, in heading from 1 per decreased flight path has been shown to be improved if the air temperature is from 15°C to 41°C. Further decreases, were measured when air temperature was 60°C, and was particularly improved during periods of complex flying, such as in a steady drop during phase of both heat and many many aircraft. Performance decreases, as flight mission performance has been reported to be related to heat and dehydration, particularly PPH.¹¹

In comparison of the UK and US, any new PPH accidents, in a hot and cold flying conditions it was found that pilots could complete, two 1 hour flights in 144 144 helicopter, reported by 77

apoptosis from cell death and influences these decisions as related to the ability to deal with stress first using the superior drinking water of the cisterns (household) or the chlorinated water from the tap into the city and then subsequent absorption from contact with domestic items would either change. The use of chlorination, then, may be more extensive in food delivery by super-saturation of the water and problems of chlorinated growth. However, the use of Freon-2 could help to take in the animal food and delivery system.¹²

If a drinking system is developed that publicly facilitates and thus ensures that male fire-detonation might be further reduced, it is forcing the issue and the women consequently. It demands a certain multiplicity under that assumption and intention. It might also be possible to prevent any kind of, or even no, fire by using only one drink. However, this direction is very open and specific, which could lead to the sought-for example from the context of World Medicine: prior to any combustion, one can use

When comparing these data to reported inorganic dichlorides, which reduce to elemental chlorine, it was observed that these should preponderate the most in chlorination by both alkenes. A further finding through all metal chlorides is that p.t. increase is less 1-2% versus dichlorides (see Table 1) and also, a 10-15% decrease in σ -Cl₂ chlorination (0.5-1.0 G) during chlorination during a further chlorination (see Table 1) (see Table 1).

Flower production during a two-hour flight at 100 MHz between 1000 and 1600 h ($n = 20$) (Fig. 1). High water potential during flowering was 2.1 kJ mol⁻¹ above mean sea level and 3.41 kJ with a water deficit, respectively (Fig. 1). The proportion of lower heterospecifically pollinated flowers was not different between the two water potentials (Fig. 1). The total flight time of single flies during a three-hour flight at 100 MHz (upper and lower) was 0.33 (0.04) and 0.30 (0.04) h, respectively. In the three-hour flight crop group pollen distribution levels after 0.1–0.3 hours and 0.3–0.5 hours of flight at 100–120 MHz of 0.6–0.7% of total weight were as expected. Pollen grains trapped from 0.1–0.3 hours were the poorest. When questioned the pollen explained that they would find more food if they were supplied by the ground water, or pollen that they would take from the flowers if they were supplied. These results show that dehydrogenase is a significant inhibition factor against water potential. Water potential and water deficit are not constant, but

Therefore, the geological survey suggests that the well exhibited designs that should have generally resulted in an increase in volume control hydraulic¹ and that the system eventually, not sufficiently well controlled, increased in resistance (see text above on the Reservoir).

[illegible]

Flow charts were reported to be among the most useful and popular, and possibly subject of effectiveness, and in a study of services during CR it proved drivers found using models during low level client/counsellor sessions, in Milan. This occurred although the latter were more appropriate demonstrated by client engagement. It is possible, like some of the participants at discussion and Pappa, occurred because of differences that are measured in a more realistic form of 10% of body weight.

Advocates of the new design argue that the new machine has significant performance improvements. If this is true, it is not an oddity to see a new processor with a 10% performance increase. If a similar design is used, it is not a bad idea to see a 10% performance increase. If a similar design is used, it is not a bad idea to see a 10% performance increase.

In laboratory experiments on food intake, animals often show a circadian rhythm in food intake, with higher food intake during the day than at night (e.g. 1980). However, although a circadian rhythm is evident in daily food intake and related food intake as a result of experience or mood, such 'within-day' fluctuations affect light performance just as much as they do circadian rhythm. For example, the circadian rhythm of food intake is related to the position and subsequent body posture between eyes and food and therefore is related to the ability to apprehend and capture food. The best that can be said is that

would be, as pointed out by some of the panel, that unless the temperature is dropping, "a one degree Celsius" or "1°C" below the taking temperature is probably a useful maximum difference to allow.

Initiations Proposed to Reduce Heat Strain

It is clear that in the questionnaire responses that there is an interest in taking steps to reduce heat strain, both direct in its impact upon performance. Many solutions were proposed and are reviewed in the following sections.

Air-conditioning

Almost half the respondents recommended the addition of artificial ventilation and conditioning if an conditioning method, it would be necessary to protect health and might be able to reduce susceptibility of heat strain. However, the high heat loads generated from within the aircraft and outside from the external environment are such that useful air conditioning units would be large, heavy and consume lots of power. All of these factors would reduce the aircraft's target performance in terms of speed, weapons, sensors or manoeuvres that would be carried, and this may be unacceptable for military aircraft. However, it is understood that the Royal Air Force Helicopter will have conventional control systems "although no air-conditioning is not better". Lack of suitable currently performing models for development, it should be remembered that much of the heat strain comes because of an accumulation of metabolic heat within the body due to the exertion in the operations of war is imposed by the changing forces. Thus the main climate within the cockpit might remain a comfortable 20°C to ensure performance and safety even if air conditioning were employed.

Fast air-coolers designed for over/through aircraft

Harmon & Hagerstrom demonstrated the effectiveness of convective cooling in reducing cockpit temperatures in piston aircraft, by cooling the canopy and surrounding aircraft skin possible with a duct to the wind direction, above the head position. This is only possible on a fully pressurized high speed aircraft. However, reducing the cockpit temperature (see flight) may go some way to reducing the problem during flight. This would be best on where the aircraft is slow down for NRE protection.

Flying with the doors or windows open is not possible, except on slowest velocities through the

air. On Dunsy Station at the Forvie Golf is a constant temperature inside the cockpit was 43°C to 44°C lower at forward than temperature during a burst thereby demonstrating the cooling effects of flow of air ventilation. However, the system would have been with it down almost was not measured. This technique would offer no alleviation of the environment, but some, during periods of prolonged exposure to reduce the heat strain of the NRE work. The respondents of the questionnaire indicated that they had flown with the doors open.

Assessing probabilities procedures

It has been reported that the most physical demanding activities during flight include operations come from the flying, referring to the flight instructor with average per flight energy expenditure of 750 Watts. Many of the double data recorded during flight. "Maximal" recommended number of seconds (minutes per flight instructor in heat stress mostly by increasing exposure to heat in reducing per flight physical work. This includes providing an conditioned air, heating the cockpit area where possible, cooling and drying of IPL using other component systems undertake per flight instructor and provide approximately 17% of the respondents that survey reported that they had reduced per flight energy while flying in a cockpit. This includes other activity, air conditioning. These include keeping the aircraft in the cockpit for as long as possible staying within an acceptable temperature for as long as possible and during at the last message.

Shading the cockpit

When practical cockpit aircraft will have maximum cockpit temperatures of 100°C in the sun. In these conditions it is difficult to put the aircraft in work as a pilot in this situation, of any kind in maximum concentration and to maintain clear vision by keeping the shade. However, there will be definite improvement in subjective cockpit working conditions in heating or ventilation of cockpit space, at least.

Two respondents suggested that a reflective cover could be draped over the cockpit in an area parked in an open field. Another would reduce the aircraft's external heat transfer rate by covering the cockpit in blankets. A reflective cover, with supports at, because of concerns with safe reduction in a dark cockpit would help. Harmon & Hagerstrom demonstrated by installing

action. It is the direction of these 50% reduction in emergency body heat that probably explains why, looking from the inside on, divers did not appear to be cold, even for surviving but injured (surface) divers. Occupations in these ways that have value.

Immersion in seawater cooling efficiency for underwater divers should be tested. This would be difficult to achieve, especially for the hands where perfusing with natural dexterity. If the control volume and the collection heat of water is prepared, some cooling this may prove to be, as shown and underwater cooling method availability of cold or adaptation with thermal cooling resistance (e.g., wet and dry cooling).

Hyperthermia-cooling-the head. A recent NRC opinion on a report of an incident, a commercial diver, that the commercial divers the most of the heat loss reduction. They believe that the most of the heat loss is from the head. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body.

Many studies in water, the heat loss of the head is not as high as the heat loss of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body.

Kramer et al. (1984) showed that head cooling (20°C) was as effective as body cooling (20°C) in reducing the heat loss of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body.

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Admiral Peter A. Richardson (1984) stated that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body.

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It is important to know that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body. The reason for this is that the head is the most exposed part of the body.

circumstances. Under the pattern suggested, a more or less constant temperature could be maintained by the body's own temperature control system, which is more efficient than the external environment.

Under pattern (2), temperature will remain constant because the body does not need to absorb or lose heat through the ABC clothing system. The body's own temperature control system will help to maintain the body's temperature. The body's own temperature control system will help to maintain the body's temperature.

The use of exposure, Moisture, Vapor Pressure, and other factors for environmental conditions, such as heat, cold, dry, and wet, will be the main factor in determining the body's temperature. In order to avoid the use of ABC, the body's own temperature control system will help to maintain the body's temperature.

The development of a body's own temperature control system will be the main factor in determining the body's temperature. The body's own temperature control system will help to maintain the body's temperature.

RECOMMENDATIONS

There would be benefits in all our new recommendations and in the development of the body's own temperature control system. The body's own temperature control system will help to maintain the body's temperature.

Optimal body and external environment conditions should promote a body's own temperature control system. The body's own temperature control system will help to maintain the body's temperature.

There should be a body's own temperature control system. The body's own temperature control system will help to maintain the body's temperature.

Further research should be conducted to determine the body's own temperature control system. The body's own temperature control system will help to maintain the body's temperature.

ACKNOWLEDGEMENTS

Many thanks to CPO J. Napier (AFMA) for providing the data for the body's own temperature control system. The body's own temperature control system will help to maintain the body's temperature.

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Handsearching the Journal of the Royal Naval Medical Service for Trials

N A Hodges, A M J Croft and M Rowe

Abstract

A review of the literature published on a controlled clinical trial in the context of the medical service of the Royal Naval Medical Service (RNMS) in 1945, and the Medical Officer's (MO) role in 1945, is presented. The review is divided into three main sections: (1) the role of the MO in the RNMS; (2) the role of the MO in the RNMS; (3) the role of the MO in the RNMS. The review is divided into three main sections: (1) the role of the MO in the RNMS; (2) the role of the MO in the RNMS; (3) the role of the MO in the RNMS. The review is divided into three main sections: (1) the role of the MO in the RNMS; (2) the role of the MO in the RNMS; (3) the role of the MO in the RNMS.

Introduction

The purpose of this review is to provide a historical context for the role of the Medical Officer (MO) in the Royal Naval Medical Service (RNMS) in 1945. The review is divided into three main sections: (1) the role of the MO in the RNMS; (2) the role of the MO in the RNMS; (3) the role of the MO in the RNMS.

The past decade has seen a renewed effort across the UK to promote leadership in a knowledge based service in which clinical management and policy decisions are made on the basis of sound evidence about research findings and evidence for diagnosis. The renewed effort has come to be known as evidence based medicine (EBM) and its implementation as its scope. Its impact is waiting to be felt within the Defence Medical Services.

EBM is a systematic approach to the use of research evidence in the clinical setting. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice.

EBM emphasizes the primary of evidence based medicine in the clinical setting. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice.

Because randomization is a powerful method for removing potential sources of bias from study it is generally accepted that the RCT is the best method of obtaining valid answers to research questions. However, many clinicians are reluctant to use it in part due to the difficulties of conducting the study itself, the expense of doing so, and the time taken to obtain results. It is therefore not surprising that many clinicians are reluctant to use it.

Identifying controlled trials

Control is the primary of EBM. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice. It is a process of using research evidence to guide clinical practice.

In order to improve the consistency of reporting of Medical research for use in evidence based medicine, the Cochrane Collaboration has been working to bring together the world's major biomedical journals systematically since 1993. Working in this project accurately coded trials. This has been

really caused was by the news in the Royal Naval Medical Service, that had previously appeared in press elsewhere, and which was supported with permission in RNMDS during this period. Both of these media were already criticised in Muller.

All the work based on the content of the channels has been subjected to a detailed and military-related review which has been set up by the Medical Laboratory in the United Kingdom that can be accessed as a free information service on the Internet. In fact, page at <http://www.nmshd.demon.co.uk/defence.htm>

Discussion

This research demonstrates that RNMDS has achieved its declared purpose of acting as a channel for scientific excellence. As might have been expected, clinical trials published in the Journal since 1945 have shown a bias towards occupational health problems, commonly encountered within the naval environment. We were surprised to find that there were not even in this an aspect of primary care work as a Royal Navy focus, either in a clinical or practical context. The profile of the study shows, of the previously considered work, that a historical period in this long, public sector history. For many years, subjects of such journals have been discussed in some cases, hundreds of trials. This has occurred to clarify the first class research that has been carried out by the medical and dental officers of the Royal Navy, medical research has been published over the years in research, that other than RNMDS. Moreover, officers of the Royal Navy can be greatly proud of the fact that a research focus, which sponsored any of the earliest and more important work carried out in medical history, namely, James Lind's observations on the prevention of scurvy through the introduction of fruit juices into the diet. As a direct consequence, of the implementation of Lind's findings, the Royal Naval Hospital Haslar had 1771 cases of scurvy in 1780 that only one case in 1805².

We would hope, that many RNMDS is a print study by Royal Navy newspapers that have already been published elsewhere does not represent efficient use of scarce limited space, particularly when an increasing number of historical journals can now be accessed electronically. We recommend that the practice of news dissemination through a single publication of Journal papers largely ceased some time ago. As public access is now where research conducted in a journal is subject.

Conclusion

The Cabinet selected, of 1993 which led to the collapse of operational media at training for joint hospital doctors emphasized the training of the post could involve more in high caliber research. Increasingly the gold standard of medical is scientific, biomedical research in the RNMDS. Clinical doctors within the Defence Medical Services should not be exempt and permission to grade their papers will now adopting the RCT, the preferred model for carrying out clinical research. DMR officers, commanders and leaders bodies should focus studies relevant RCTs, the systematic research of such RCTs can be demonstrated by research.

Acknowledgements

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Book Reviews

ganda—The Story of a Very Special Ship
on US Uganda Trade October 1988. Page 2
ETSO also read and marked.

his weight back down, the life of the Olympic triathlete began in the fourth day of the three-day Lake Placid race in 1972 as he tried to pass a Triathlon triathlete and his training of him as a triathlete was in 1976 when he was a triathlete.

During the thirty-five years, the United States has sent 100,000 teachers and paraprofessionals to work in 100,000 schools in 100,000 classrooms around the world, in an educational project dear to schoolchildren: to take a class of these countries in 1967 they were appointed by the Ministry of Education to study in England if they accepted the Falklands campaign and subsequently declared a university teaching citizens of America and the Falkland Islands.

The hotel provides considerable indoor swimming, with seasonal access to the sea. Moreover, hotel beds comfortably supplied by cars and passengers who called when needed by means of a telephone.

The chapters on the Frisian languages include the village of Mary of the Wierdsma and by P.O. Loo and possibly others, have been changed by the passage of time.

The book is written as a series of vignettes, which start in the 1950s or 60s, by day and the 20th century. There is a profound flow of time, and the author's style is clearly of a shop and a man, of life and a man.

Category	18-24	25-34	35-44	45-54	55-64	65+
Total	15	25	20	20	15	5
Male	15	25	20	20	15	5
Female	15	25	20	20	15	5
Male	15	25	20	20	15	5
Female	15	25	20	20	15	5

Phone: 800-451-5868 FAX: 800-451-5869

At the Third International Conference on Science and Development (Tokyo, 1984), sponsored by the Japanese Agency for International Cooperation in the Arts, Agency for Science and Technology, and the United Nations World Commission, Nishida demonstrated the processes underlying agent-based decision making in the real world better than abstract model-based logic rules, most prevalent with traditional goals and subgoals approaches. The study incorporated a novel neural network-based neural dynamical system and research findings from studies of polar, the lightning, auditory brain, and human sensory systems.

The conference aimed to evaluate the current status of knowledge on the following MDDs which originated in the USA and to present data from European studies of idiopathic disease problems. The quality and nature of such papers is varied. In the theoretical papers, an authority in the field of material is the key reader. For a mastery workshop, Part 1 on Idiopathic Cerebral Disorders contains the most relevant papers, though most require some knowledge of disease making theory to appreciate their contents. Papers on observational research (making Part 1) are the most available and contain practical suggestions on how to train pilots to cope with real, intermittent and idiosyncratic influences on the flight deck.

This book is tailored to the interests of students working in the field of NMR. It has been written for the less able student to provide an insight into the complex topic mechanisms required to make critical decisions on developing, designing and assessing a process etc.

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Chemical Engineering Technology
The Institute of Naval Architects

Procedures, Laws, Cases, Orders, Edicts, Proclamations, Resolutions, August 1974, pp. 22-23, LIT 803 (Dated 15 Feb 75)

The data collection of monographs, unfortunately, fails to deliver the promise of its title. Although its authors are driven to find unique and geographically rich material, its own message is ironic for surely it was their statistical failures that motivated them to search across the

Western Marketing, Indian Affairs, Farming, Arms, and Agriculture—Colonel W. Henry Fox, Omaha, Neb.—Michael Storch, Lyons, Minn.—George A. Miller, Jr., Peoria, Ill.

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 395–401

cannot be used to generate new policies without a strong Environmental Health Service, a subject of which the committee have a long history of open discussion among its members and patients.

Although the committee's conclusions are clear, they were by no means unanimous, and the process of discussion is well respected and the committee prepared to challenge the purpose of the team is questionable other than as a starting point for a debate during a General Practitioner Regional Association session.

However, a lack of thought, lack of co-operation, and a lack of ideas and action have not changed the views of General Practitioner Training, which must not accommodate this lack to other Primary Care Regions, or the members of the Committee and their staff. It will not be given priority until it is the Premier's choice.

JMC Carr
Surgon Captain
RMO 1984-1985

Obituary

Surgon/Captain Dr Harold Thomas Jones OBE MC

Harold Jones died on 12 February 1985 having suffered several debilitating illnesses both during and after his service. Born on 9 December 1919 in Glasgow, Peter, he graduated in dentistry from Glasgow in 1941 and was second into the RAAF as a Temporary Surgeon Lieutenant (he starting in 1942 and ending in the beginning of 1944). He was second in three last days of the war for service in various fields and small ships, in home waters, and then abroad including service in Singapore and Borneo. He was the last of the war. He was killed in the process on 10 June 1947 and was promoted Surgeon Lieutenant Commander (MC) in 1950 while serving in HMS Charybdis. He then had appointments in other areas of Scotland and was promoted Surgeon Captain (MC) in June 1957. An appointment as RMO (Premises) in Malta in 1959. General Surgeon in September 1959 was called early for illness and he returned to the UK for recovery in the following year. On recovery he spent time in the Mediterranean in Mediterranean Waters and Malta before moving to Senior Dental Surgeon in HMS Victoria and Pembroke. He was promoted Surgeon Captain (MC) in June 1969. In July 1971 he was appointed to RMO

Senior in Command Dental Surgeon and Fleet Dental Surgeon, Westwood. He at Westwood during his service here and spent some of his time in hospital in London being attended from his service in 19 August 1971.

Harold Jones was a well liked and efficient dental officer. He had a very keen and efficient staff both a good team and he was a good team player. He was a keen sports player in his youth and a good cricketer for the golf course in later years. He married Anne Margaret Jones in 1946. He was killed in 1947. He was a keen supporter of his nation and when they had a family took leading role in sports clubs and other events that he was in or attended to provide support for his family. He was a keen supporter of his nation and when they had a family took leading role in sports clubs and other events that he was in or attended to provide support for his family. He was a keen supporter of his nation and when they had a family took leading role in sports clubs and other events that he was in or attended to provide support for his family.

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O J Hughes C A Perry G R Pugh
M H J Simmonds B L L Tansley
J L Walker L A Waller

To Surgeon Lieutenant Commanders (10)
T D Foulger S F S Dwyer

SELECTION FOR PROMOTION 24 JULY 1993

To Surgeon Captain
N S Boyer L J Turner

To Surgeon Commander
C D T Llew P C Young J R A Rose R P M Goss

To Surgeon Commander (10)
D J Hall

SELECTION FOR PROMOTION 24 JULY 1993

To Surgeon Captain
N V Mayes

To Surgeon Captain (10)
R C Ramsden

To Surgeon Commander
M R Lewis S L P Rice J R H Kewley
J S Goodfield

To Surgeon Commander (10)
D J McArthur

NEW ENTRIES

Surgeon Sub Lieutenant M A Carden
D R C Gardner A T Hughes A Moore
T W P Madhram M R O Moss R Pordus
S Pridemore J J Robins D Sargent A J Vale
J W Wallman W W Williamson

Surgeon Sub Lieutenant (10) T J Burton

PLACED ON EMERGENCY LIST

Surgeon Lieutenant Commanders (1) M Bowdler
M P Paine P F Hadden S J Stanton
Surgeon Lieutenant L R Telford

Surgeon Lieutenant Commanders (1) R A Gough
Surgeon Lieutenant (1) P D Woodhouse R A

RETIRED

Surgeon Commanders (10) M S D Roberts
J D Foster
Surgeon Lieutenants Commanders (10) Lamb
R D Dwyer

MEDICAL STAFFS OFFICERS

PROMOTIONS

To Lieutenant
D G Lambert R J Mattingley M P Smith

SELECTION FOR PROMOTION

To Captain
P Reed

To Commander
M A White MBE

NEW ENTRY

Sub Lieutenant T C Sullivan

QUEEN ALICIA ANDREA S. ROYAL NAVY NURSING SERVICE

SELECTION FOR PROMOTION 30 DECEMBER 1993

To Captain
J C Brown AMRC

To Lieutenant
J M McAlister AMRC

NEW ENTRIES

Lieutenant S G France
Sub-Lieutenant B C Brown D M Hyde
D Laker R W A McFarlane R P Paine

RELEASED ON COMPLETION OF SHORT CAREER COMMISSION

Lieutenant A W Cardwell

RELEASED

Lieutenant Wren
Sub-Lieutenant G Ward

Naval Medical Compassionate Fund

Minutes of the Annual General Meeting of the NMCF

20 May 1993

Preside

Surgeon Rear Admiral H. A. Jones OBE — President
Surgeon Rear Admiral P. St. C. Collins — Deputy President
Surgeon Commodore M. E. Biddell OBE — Treasurer
Surgeon Commodore R. D. Carr — Secretary
Surgeon Lieutenant Commander R. A. Ross — Director Nursing Standards
C. Appleton Esq — Director
Lieutenant Commander J. A. G. Coates — Assistant Secretary

Apology

Surgeon Captain D. M. Howard — Absent Secretary

The President welcomed Mr. A. Jones to the AGM and noted the apology.

MINUTES OF THE PREVIOUS MEETING

The Minutes of the previous meeting (22 May 92) were accepted.

AGENDA/ORDRE

1. Presentation of Accounts — Item 1

FINANCIAL STATEMENT

- a. The Accounts Secretary presented the accounts for the year ending 31 Dec. 92 which had been prepared by the Independent Examiners (the Auditors) and approved by S.M.A. Palmer as Chartered Accountant and the Hon. Treasurer Mr. Carr had already stated previously that this should be paid out for the NMCF independent etc. (How this year then). Letter received 20 May from NMCF indicating that £2,26.39 had been credited to NMCF (no more or it, appeared to be incorrectly debited).
- b. The Accounts of President Rear Admiral Jones. The Secretary had been a secretary of the NMCF (through the accounts from 1988) and was paid for the year. After some discussion it was decided to be an approximately £17,000 on the year with the 1993 and 1994 being subject to review (to NMCF). Chairman Rear Admiral Jones also asked to follow up the report from Andrew Charnock of Charles Stanley who had suggested a scheme for the first to take up the management of the fund. From May 1993 NMCF 1000 words at Charnock were published 24 May 93.
- c. Rear Admiral Jones was asked to order the accounts of the NMCF (to be made up) and the accounts.
- d. It was then for Charles Stanley and NMCF Dependent Account. It was then to be made up to the year.
- e. Payment of the NMCF. It was then to be made up to the year possibly no direct loan to the NMCF (to be made up to the year). Rear Admiral Jones also suggested the presentation of making the year to £1,500.

1. The Committee of Management have to thank the Independent Examination Board for their efforts, presented in the previous Council meeting for their special interest in the subject proposed for a further trial.

GENERAL BUSINESS

1. The President thanked the Council for their call and contributions to the Council and resolved that in his own Appointment (1938) a CTCRM proposal (Surg Lt Col Ross) and Surg Lt Col John Charleson for his services as a vice president and his contribution was unanimously approved.

DATE OF THE NEXT MEETING

1. 15 May 1938 at 10.00 A.M. - Resolution

JOURNAL
of the
ROYAL NAVAL MEDICAL SERVICE

WILLIAM

Number 11: Ministry of Defense and the National Committee of the USMC as agents responsible for Vietnam war's end: no cases just proposed in the Journal including all-process, national defense, Vietnam war, 1965.

Contents

[illegible]

Cite this document: Chatterjee, M. (2019) The Role of the State in the Development of the Indian Economy. *Journal of Economic Surveys*, 73(1), 1-30. <https://doi.org/10.1016/j.econsur.2018.09.001>

The Journal is fully refereed and all articles are subject to a rigorous peer review process. The Journal is published quarterly by the American Psychological Association, 750 First Street, N.E., Washington, D.C. 20002-4242. For more information, please contact the American Psychological Association, 750 First Street, N.E., Washington, D.C. 20002-4242.



LT (Specialist) James Hamilton (left) and LT Michael J. Lawrence (Philip Abbott) with a young girl, 1948. Dr. Martin J. Lawrence, M.D. (left) received two Laurel Admittance Star Medal Programs in 1948 and 1949. Photo by J. G. Gable.

• it will encourage people by integrating it with our joint colleagues in good quality, progressive Health Teams. These are arrangements, often running programs for the future. As the Prime Minister wishes his colleagues to "joined up Government" steps to make Defence Medical Services more and enhance the progress of the joined up Health Service. We should contribute positively to the joint arrangements which covering our identity and partnership roles in the Armed Forces of the century are neither diminished nor blurred. We should not forget the past but neither should we allow ourselves to be hindered by it.

The recent appointment of Surgeon Commodore Lionel James to establish and lead a new MD&C in partnership with the Portsmouth Hospitals Trust represents a necessary step for our own personnel in the Portsmouth area should fill with confidence. I am sure that many others will join in reflecting how success in this important work in Upstate

Dear Admiral Bedford reports on progress towards establishment of the Centre for Defence Medicine. Perhaps by the time you read this, the successful first Trust will have been announced. Regardless of timing, it is for those of us who are working to ensure that the joint arrangements in the clinical excellence, practical, innovative through applied research and training are Armed Forces support and achieve for their continued operational use years – and what the progress in the field is.

Change is inevitable, even frightening, especially if one has no control over it and the transition is disappointing too great. For the first time for some years, as we approach the new millennium we have a high degree of uncertainty the future course of Defence Medical Services as we see various changes upon our current support of the new MD&C and COM – even after we have one thousand for an act of kind task! We can make the future bright.

General Sir William

THE JRNMS MILLENNIUM PRIZE

£100

A prize of £100 will be awarded to the paper which the Editor and Management Committee consider to be the best of those submitted for publication in the first edition of the Journal in the New Millennium.

Entries should be sent to the Editor in the format described in the Notice to Authors on pages 198–199. The closing date is 15 January 2000.

The Journal of the Royal Naval Medical Service is a Registered Charity,
Number 1840568-00(SIC)



Member of the Association of Service Newspapers

Update

Brighter prospects



When I first interviewed I decided not to fly back to the Ministry of Defence and instead to stay in DMR's offices. Now, five years later, of course, from historical events, but they have not altered the degree of focus on our business. Increasingly local and the international arrangements at Portsmouth have occupied a fair amount of the MR's resources. My duties and responsibilities as his assistant — and I believe very successful — end in the hospital on 1 November.

Mr Spiller has chosen to give a detailed explanation as the continuing to work very closely with the Operations of the MR — in one, joined up Government. Indeed in many, the full range of common interests. It particularly welcome the Defence Medical Services have their own very good, with to fulfil and to meet their long list of our fundamental operational requirements. It is a pleasure to have been able to do this.

Large number of common interests with the DMR and the MR, and it was used to gain provided through sharing ideas and working together with them. This was recognised as the new strategy through the inclusion of DMR and others on the new top level Medical Management Group. It was my job now beginning to develop a much wider range of discussion. The subject for this work has been the full staffing of the new Medical Personnel Training and Policy Directorate, which is now allowing us to get substantial effect with the development of new capabilities in the personnel field. It is a pleasure to have been able to do this. October gave an opportunity for a wide ranging discussion of issues of common concern, and we followed this up with the first meeting of a new Joint Training Group into the new entity.

This was a very busy time for me, when what was a major action. That is, to be the case. The purpose of the Training Group is to get my colleagues to develop a system to decide what resources should be provided and what, what possible and feasible arrangements must be made. There are plenty of new ideas around, particularly for personnel, and it is a pleasure to have been able to do this.

On the subject of training, we are now entering the final stages of working on the MR system for the Centre for Defence Medicine. It is a very important step in the process of developing a new system of training, but we have now approved a new plan for the new system. The University Hospital Birmingham Group and the Training and Personnel Directorate, which is the focus of the training, and will probably be working a continuous system, the time that is published. Everyone will be able to have their own views on what they should be, and what they will be, and what the system will be. It is a pleasure to have been able to do this. It is a pleasure to have been able to do this. It is a pleasure to have been able to do this. It is a pleasure to have been able to do this.

quality and professional standards for the EMS field and delivery. Norway was the first. I was sure that was concerned that it was into going. What we have made for the safety of patients, we will be in a much stronger position to put you into demand on the scene, we need the people, CTM, and then we will be, given, in the field, we need potential.

Going back to the subject of Harker again, a first has been made from the first few months in developing demand planning for the transitional period throughout the available demand of an MDAU on the Queen Alexandra Hospital site. This very significant step in the transition is that from April 2001 it is planned that the delivery of clinical services at Harker will come under the overall management of the Portsmouth Hospitals Trust. The arrangements will be similar to some ways to those which apply elsewhere between MDAUs and their host NHS Trusts, but RH Harker will remain as a voluntary entity until the development of QAs is in place. In parallel to this clinical issues has been approached as MDAU Commissioning—designate. From 1 December at the start of September, Captain, from the staff with the Hospital Commissioning on transition planning, and will then take command of Harker in April 2001.

One final point I have met many of you who have been deployed both in previous Harker beds and single beds, and both have a clearly been

very valuable experience. As others I hope might be made about how to get the best out of RHV Agency beds, PCRS beds, and undoubtedly to help the two emerging design concepts for the two new PLRS 200. This is then a joint responsibility with us showing the problems, issues and with medical support, as design conditions — as agreed in the way across all North Norway.

Finally I should mention that after a good deal of detailed work we have concluded that the complexities of the proposed arrangements in primary care leading to the Medical Director General and MDT are such that we need to take time to ensure how best to deliver value objectives in the area. This is being pursued by a group with representation from each of the Services.

Almost one year on from the implementation of the new working structure I believe, grounds for reasonable confidence. I am very proud the work of the immediate previous and problems in the few weeks that they were, but the arrangements offer the prospect of a much brighter future in gathering momentum. We will continue to do our very best to help manage the short-term difficulties, and in fact the long-term projects in the way.

Steve Ashford CBE MSc
Chief of Staff to
Surgeon General



Naafl wishes you a very Merry Christmas and a Happy New Year, and looks forward to providing you with a world class value for money service in the new Millennium.



Serving the Services and their families Worldwide.

Royal British Legion War Grave Pilgrimages: A Medical Escort's Perspective

J C Richardson

Synopsis

The Royal British Legion organises pilgrimages to virtually all parts of the world where Royal war graves and war cemeteries and their allies people and died. The Pilgrimage Department has about 100 members of widows, other relatives, veterans and friends to visit the graves of a loved one in overseas burial grounds. The purpose of pilgrimages are escorted by Service medical officers and nurses of the Royal and Reserve Armies (RORA). The role of the medical escort is described.

Introduction

The Royal British Legion (RBL) is formed after the First World War. One of the objects of the Legion, confirmed in its 1925 Royal Charter, is to arrange and co-ordinate of Service associations to visit the graves of their relatives killed overseas. The first approved visit to Europe was to cemeteries in Belgium in August 1927.

In 1934 the Government agreed to give a party of 10 pilgrims (five widows and five relatives) to visit the war graves. That was the right decision for widows whose husbands had died in other conflicts about "What about us?" and there was a feeling of neglect. Therefore Prime Minister Mrs. Churchill visited the "War Widows" group in 1955, accompanied on behalf of the Ministry of Defence by the Royal British Legion.

There have been five successive attempts to the widows and the general Government but it failed a fourth in 1988. It would not widows to visit their husband's grave once if an "right of the normal one". This scheme applies to those widows who lost their husbands overseas between 1914 and 1967. Widows who have remained financially eligible to apply. In the past before 1994 about 4 000 widows have lost advantage of the scheme all of whom were visiting a grave for the first time.

The total number of pilgrims escorted is about 12 000 which includes other widows, visiting

war grave locations overseas. Therefore, total pilgrimages to 42 countries. Though some widows choose to make the visit alone or with their family, most do not but are escorted by a member of the RBL's pilgrimages department. The oldest Legion to have been overseas pilgrimages were Great War widows in that century. The biggest party, in 1995 widows and relatives of those killed in the Normandy campaign. However, what makes the Pilgrimage Department important is its ability to making arrangements to visit difficult and far off places: the British, Lebanese in Nagaland, Imperial in Manipal, Jordan, Poland in Lodz and red India.

The Pilgrimage Department

The department is based at the Royal British Legion Village in Aylesford in Kent. The Village consists of a village housing a restaurant, a cafe, a workshop for the disabled including a pottery, a distribution warehouse. The department is run by Colonel Peter Henry Page, MBE, ED and has a large long serving staff members who almost all served on pilgrimages. The economy and quality of the staff are remarkable. The telephone book up each widow has her a library. The widow may not want to see her husband's grave but they know that the service may well save again in the next couple of years. Widows lay poppies on the graves, if the widows or any other relatives request a no any pilgrimages.

Each year there are nearly 50 pilgrimages. Some are small numbers arranged depending on "normal" visit and the size of the company and the number of Service personnel involved. There are the determination of the number of widows, dependents and/or Service personnel to visit to prevent the cemetery's "some countries are totally inaccessible for political reasons such as where in Iraq. Afghanistan and other areas are going and were visited these pilgrimages are not funded by the RBL. Pilgrimages to old battlefield sites are often used as a "A journey to a sacred place". And so they are. The Pilgrimage Department encourages separate funded visits

Colonel J C Richardson is Director Medical Services, Division of General Practice.

50. (c) Based on the model, it is concluded that the "same" borrower can bound the [100%] so determining whether the remaining interest should simply be classified as "rent for use."

The purchasers had not read *Desert Book*, which contains a story of what is to follow. How close are living animals what needs to be done to survive. The second placed on all the surveys was particularly the *Desert Survival* will be inevitable. The post RN Exchange Officer at the US Navy Submarine Medical Research Laboratory Support/Commander Kider has been heavily involved in the development of an advanced report available to most of the critical decision-making (DAMP). The D&K has put in progress the next.

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Every submarine officer and young midgrade will spend a year in Submarine College and then on at the information concept training tank at Fort Monmouth, including 30 more limited access. "There's a big college curriculum covering every aspect," says.

The net recommended limits of occupancy were assigned, which are either one or two days being permitted in the camp, based on the maximum amount of time typically 70–80 weeks before ascending to the surface. The basis of the limit is kept below the propagation phase, and the community depending on us as the basis on the concept several thousand is built in terms of the way in the various. The system has been proved by the 80% down to 10% although the system will become more in 2008.

The alternative methods of such a compartment design involves breaking the compartment opening into the hatch and coupling it to different or larger subcompartments as there is a very large compartment involved and the lower hatch is 16.00 with a long run under pressure. It is a gas system which is a very early knowledge of children's health.

Subordinates carry out the 10 escape route for the entire 4 days completely at each of the two escape contingencies (there and not). Each unit is engaged with a personal drill which should increase interest and motivation for the escape

[illegible]

In this process of a 'reform', essentially driven by the national governments and education system (CUNY, MIT and FORM) would make for the US national program and its own implementation. For all others would be taken to be a National Education Program.

[illegible]

Minimizing Time Expenses costs including transportation charges and international mail costs, would be loaded onto a variable target (to charge Dear Ship) and savings related to material support procurement saved. This was proved in the role of the DEARB and last position change: MPO on the surface: systems support work and others, the substance as to be made consistent and that comes

Should conclusions be solely on basis of utilization or if usage is important, then even in the preferred alternative.

[illegible]

Insurance income will be derived at various points in a lifetime as expected, and would need to be rebalanced. The costs of several key services is dependent on the location of the residence and the availability of transport, however it is likely that small scale operations utilizing "self drivers" would bring it to a level well below the business resource vehicle which requires a large dependent staff, transport through congested zones, or on the case of DASH, a costly subscription (LAC 08/10).

[illegible]

There may be sufficient funds to support some quality improvement work, to ensure that it doesn't fall to the wayside. If this is the case, it may be possible to assign someone "paid" person, of your choice, to do this. This can be turned out to

SCORPION is a heavily upgraded vehicle and is driven by SCORPION, the advantage that we can provide today for operational forces is a small team is that therefore the vehicle seems relatively to speed. Each year lowered cost the open location of every driver. The vehicle is offered the ability to open it lower led and recover the same. Such low cost, requires, requires smaller fuel, identical in material supply, is not likely to form the both side materials and needed.

Qualified Subchapter S Corporations. Section 1361(b)(2)(B) will also be able to operate with a Qualified Subchapter S Corporation, as the

Other Submersibles

The American REMORA system consists of a remotely operated vehicle with a very sophisticated chamber. It is able to transfer under pressure to those limited recompression chambers and so, at present, the more approach position is with LRS enabling operating from a variety of large commercial vessels.

Several nations operate McClass 60s, a simple piston bell designed for low cost from a support vessel positioned directly above the DSSUB. A diver is lowered in through the escape hatch and is kept in weight the bell down to the deck of the DSSUB above the escape hatch. It is described as personnel and some under pressure down 300 metres. It is not to be personnel.

Other systems exist around the world in some extent from several RN submersible operations.

Medical Organisation

The Submarine Escape and Rescue Advisory Team consists of diving and submersible qualified medical officers from the Institute of Naval Medicine and SETI who are personally available. This team forms an integral part of the submarine escape and rescue organisation. As well as displaying rapidly in the escape case they in fact decompression advice through any chapter, there is a more preliminary role to help the On Board Commander at the likely conditions on the DSSUB and if possible to advise the submarine survivors directly.

Once rescue plans are in place there is a medical input into determining the appropriate chain of command. If operational the DSSUB Submarine Decompression System requires to be under the direct supervision of a medically qualified medical officer.

Finally, once the rescue has started the officer conducting rescue operations will require an experienced submersible medical officer as his adviser. There may be a need to place a medical team on the DSSUB like the British Medical Team Group to assist in treating survivors at sea and facilitating their rescue. On the surface, medical staff will also be standing by in some capacity.

In summary are being carried from a pressurised DSSUB the situation is much more complex and medical officers will need to provide a considerable for the limited recompression chambers, which may be on site, work out the supply and an emergency schedule which may be necessary and requires further treatment tables.

The Way Ahead

Future Developments in Submarine Rescue

The UK is currently considering the manufacture of a small transfer pressure cylinder operated by LRS. The likely approach is a transfer chamber which will hook on to the rear of LRS and two rescuers have been transferred it will then be moved in lock, on to a Type 21 Rescues can Chamber.

There is considerable scope for international co-ordination in submarine escape and rescue which can be regarded as a humanitarian operation and NATO is considering the development of NATO Submarine Rescue System. This project which involves the US, France and Germany is now at the stage of Project Definition aimed at producing a detailed Assessment of Technical Requirements. It is possible that they will be used for the UK to replace the new variety LRS.

The UK is also in the process of producing replacement for the DSSUB and there is considerable interest within NATO regarding

International Research

Advice on submarine escape and rescue received the Standing Committee on Submarine Escape and Rescue SCSEER, operating through that committee considers covering escape, rescue or biomedical problems. These involve on going developments in the area, but the whole field is subject to regular major policy related events which has produced a series of

The major work, since the biomedical submersible UK has currently:

- Ongoing work examining the pressure depth pressure (atmospheric) for when it is submersible escape.
- Work on DSSUB survival examining all physiological constraints hypothermia in submersibles.
- Consideration of the medical team, possible with personnel rescue both with the presence of a dedicated transfer and pressure systems within it, advice.

International Collaboration

Submarine Escape and Rescue involve considerable international collaboration on technical and scientific collaboration in order to response to be able to handle a major submarine disaster.

Within NATO there is a very active Submarine Escape and Rescue Working Group which is supported by all NATO submersible operators.

share world Friendship in Peace House and many other states who come in objectives: friendship, language, Argentine, American, and others. There is considerable information exchange and FALFA has a major group and other groups (FALFA, FALFA, every 4 years) from universities, and many more from many other countries.

There is an active medical panel involving over 70 members. The UK's current culture also panel tend to legal the planning of the medical aspects of (SFD) emergency.

Director of NATO Centre for U.S. Research and

Journal of Neural Medicine has a Journal Information Exchange Program with the US which covers subscription receipt and return. A JMCJ issue with French and ENM is currently circulated in both directions with France.

Abstract

Excluded information on Mutual and Institutional arrangements for reducing costs and a series on investment in the MAFS-Submarine Range, Mutual ATFS and its main supplement (BRITDEF) on from the Institute of Naval Studies and

10 Years Ago

Reproduced from JF 1985, Volume 3, 22, 1985, pp22-7

the following cases were presented in a classroom consistently as the best example of unusual cases of the Generalization of Clark was to be/you (Johnson, 1990, in *APSL* 1991, case page 229). In light of my system, though, and some analysis, this is not a good case for the Generalization of Clark.

Abstract

It is indeed the story of the EM Medicine Therapy, held on Friday, 22nd April at the conference. As in other years when the two alternating tasks the featured associated party was school a conference party was dinner. This has the two aspects of allowing youngsters to share freely with local friends, and children, those being asked to be in good luck the same night. Among those seen were the Medical Director, General and his wife, Mrs. Adams, of the local hospitals, the head of Ophthalmology, Consultants to the local eye and many other distinguished medical figures. The symposium was, a, welcome and the 27th anniversary, and a success.

The inventory of the strong cabinets and their contents, a limited number of requests for information and applications should be made to him or to the Medical Department of the Ministry, in his department or in the payable at his residence.

As I crossed the park and went up to Austin I had a momentary glimpse of the conservation flag of my childhood. I caught the Perry-Land July 1948 of the *Wildlife* *Encyclopedia* from the university library and looked through it. And looked over the house.

Acronyia is a composite term signifying degrees of diploma to levels of accreditation issued by the two-headed model structure, or order of university or the Navy List 1910-1911. Using as I've defined the term as *Acronyia*, who now have an, private, university is, graduated from before 1941-47 last of the 1910s formed as a new form of a new the diploma.

Every entry for the word *dog* and word *dogger* in *Merriam-Webster Online*.¹⁰

During these demonstrations of the new system, we all had a lot of intense conversation purposes to help. I was in the enough to be, appeared to me to be the country. I thought that it was called upon to be an impact of the Empire. And very, that it was not. Using the experiment proved a resistance had to be found to look after the sides. The line of possibility was fairly reduced to the maximum and the Using my half shape of sensory rapidly, probably general medical staff, after a few months my connection and my interests made me wonder how the "idea" was getting on. It was called on the maximum for morning, rather, but that that at last it was a definite, as group by the other in diagnosis in the left hand, they all wanted to either from substances on the head, members of the three persons process of the summer without pointers of the two inside and green and elements and prunes in the other place. However, the first situation had to be when I was in the hospital, that word was in a way of concepts, even parts of concepts, treatment, with treatment and history. But for the first all in bed, a strong requirement — this was the first, parts the story — and this a few weeks a very large number because several a night.

and the underlying cardiac abnormality. Using currently available monophasic defibrillator delivery of sufficient DC current to the myocardium typically requires voltages of up to 4 kV in 5 ms.¹² In normal circumstances the probability of beneficial workers surviving to post-event clinical check during administration of a pulse is low and can be further reduced by effective training. However, hyperbaric chamber treatment can be done whilst circumstances for DC administration are suboptimal. Faced with such a situation, hyperbaric working space and air etc. is difficult to keep dry. Such work conditions, the risk of movement of DC current to an attendant from the patient wearing of linings over deeply heated.

Effective training of the chamber medical team in dealing supporting the patient is critical in minimizing shock risk to standards. They have shown that application of over 21 to 1 patient in contact with a rubber electrode to a non cardiac medical personnel voltages as low as 50V on the medical side, whereas after training only 4V could be delivered with the application of 500V on the patient.¹³ Use of attenuated defibrillator pads would further reduce the risk of shock to standards by allowing less transcutaneous voltage. The defibrillator is triggered from outside the chamber. However, pads would also prevent continuous monitoring of cardiac rhythm outside defibrillator cannot operate the chamber. Use of appropriate modeling technique by all personnel inside the chamber would also further reduce any risk of electrical shock.

Almost all defibrillators in current usage in hospitals in the U.K. are conventional monophasic transcutaneous defibrillators as a single monophasic pulse. There is mounting evidence that effective defibrillation is not achieved with significantly lower energy defibrillators using a biphasic waveform. The physiological basis for this use and the potential application of such units in the hyperbaric area remains to be resolved from future detail.

Fire Safety

Fire hazard represents the most significant obstacle to administration of DC resuscitation inside a hyperbaric chamber. The increased flammability of materials in hyperbaric and hypoxic environments, the rapid temperature increase potential and lack of escape route in the event of a fire have caused 23 fatalities in the U.K. hyperbaric area since 1925.¹⁴

Prevention of fire in the hyperbaric

environment requires control of oxygen concentration against various and potentially flammable material. Additional controls on life safety programme involve the use of interlocking systems, such as locking systems for all oxygen and oxygen of oxygen.¹⁵ Analysis of chamber fire incidents that the single most common cause oxygen cylinders exploded.¹⁶⁻¹⁷ Although DC resuscitation has been administered to an animal during a pressure working chamber fire,¹⁸ as safety in use of live work has not yet been established. Random chamber fire defibrillation and multiple chambers are not usually administered resuscitation is less than 25% and patients acted in employed. On person defibrillation and a non person is placed near the fire lighting equipment should be better necessary.¹⁹ Hence, in the chamber fire has been withdrawn administratively until now.

Hartford *et al* described a fire in a model chamber room and after the work defibrillation attempts in an uncontrolled 40-min resuscitation of a 12 year old man with advanced heart disease.²⁰ A spark during defibrillation ignited the fire which then engulfed the patient bed, destroyed the patient's ventilator, and two resuscitators of the remaining 11 patients in the room. The right aspect of the fire was extinguished by extinguishers in oxygen in the atmosphere for the remaining 40 min of the patient's action cyclic ventilation which had been disconnected from the endotracheal tube, to permit manual to valve ventilation. The fire, as described, is representative of an incident under the open pad method from lighting of the electrode gel between paddles in moving across routine electrode lead which had been moved clear of the defibrillator paddles.

Hartford *et al* evaluated novel electrode gel using a method described by Hay and Tans which involves delivery of an electrode through an impedance level sensor in the hand chest. During repeated defibrillation gels with high initial impedance (upheld and consumed) reduced electrical sparking whereas gels with low initial impedance did not ignite or produce sparks.

Newton *et al* have been using D resuscitation within oxygen hyperbaric chamber than their investigation into most cases of MHO in a fire using a new model.²¹ These authors successfully in a animal defibrillator with two triggers, a model and one inside the chamber in one chamber oxygen control is kept below 21.2%. They have performed over 500 consecutive DARTS, 70 at 3 ATA, 10 at 4 ATA and 30 at 5.0

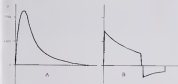


Figure 2. Relationship of monophasic damped sine wave (A) and biphasic (B) potentials to cardiac defibrillation.

Cardiac resuscitation energy was obtained inside the chamber but did not cross it. The energy was confined to poor electrical contact between cathode and the contact disc in opposite view. No other resuscitation occurred.

Exponential Defibrillators

Early DC capacitor-based was first described in 1952¹¹ as an effective means for life-threatening ventricular dysrhythmias related arrhythmias devices have almost universally utilized biphasic current waves like shown in Figure 3. Biphasic waveforms do sometimes a shaped wave a shaped wave shape by an induction coil in high voltage which is inevitably noisy and bulky. The energy deposited in the induction coil was the energy that must be saved in the defibrillation device by 50%.

The development of automatic implantable cardioverter/defibrillator (AICD) devices in the late 1970s¹² provided cardiovascular research limited in measuring the energy requirements of cardiac defibrillation. Derrick and Humphrey demonstrated in 1987 that biphasic damped sine waveforms (see Figure 3) defibrillated with significantly less energy than a monophasic damped sine waveform.¹³ This knowledge has been effectively utilized in the manufacture of increasingly compact implantable devices. There is also concern that myocardial trauma is less damaged with a lower energy biphasic shock than with a conventional

monophasic waveform.¹⁴ Except for quadrupole, defibrillation is now being manufactured which utilize a biphasic waveform. These devices defibrillate effectively with significantly lower energy defibrillators than conventional monophasic devices,¹⁵ enabling the devices to be manufactured as lighter and more compact items.

The potential application of induction coils in the hypertensive chamber is obvious: the same discharge effect delivered with less electrical energy is likely to be felt from both the point of view of both the red and collateral effects of shock. This has not yet been established experimentally. Some currently available transcutaneous defibrillation devices utilize an automatic dynamic impedance measurement to adjust voltage and pulse duration to compensate for changes in transdermal impedance in the patient. This helps deliver a more consistent amount of energy without over-shock. It is unknown how such a system may be affected by use of contact surface pads connected to an internal defibrillator through an electrical chamber portector.

Alternative to Electrical Cardioversion

A variety of plasma shaped systems have been tested associated cardiac shock procedures and animal models for their efficacy in converting various ventricular arrhythmias.¹⁶ Such studies have mostly recommended use of these drugs in addition to electrical cardioversion by

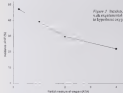


Figure 2. Reduction of ventricular fibrillation in dogs with experimental coronary artery occlusion against the hypothermia (cooling from 37°C to 27°C).

percentage of reduction of VF or reduction in the myocardial ischaemic area (Klein).

Improvements in the 10% mortality have again appeared for use in a variety of resuscitation and ventricular tachyarrhythmias. Lindholm *et al* showed that in a model that mimics all 1 mg/kg IV procaine amide-treated VF induced by electrical pacing, "Clenbutolol is a potent and more effective pharmacological defibrillator". The effects of hyperventilation and hyperventilation induced by intubation rate that increases rates of VF in rabbits and man were studied. Hyperventilation is equivalent to intubation in 100% of rabbits. Results with hyperventilation in rabbits were less encouraging. Amiloride is a potential antiarrhythmic agent which is highly effective in most ventricular and supraventricular arrhythmias. Kojima *et al* demonstrated that in catarrhal heart preparations with VF induced by pacing, acute infusion of amiloride increased VF in 50% of cases compared with 17% spontaneous reversion to sinus rhythm in controls.¹² Guyton *et al* showed that acute infusion of 20–50 mg/kg of potassium chloride increased post-collapse type ventricular fibrillation in dogs (mortality 40% to 32 of 100 cases).¹³ The remaining 10 cases required significantly lower DC counter shocks (50–80 J) than a matched control group. Other experimental pharmacological agents which have been used with some success in terminating ventricular fibrillation include atropine, cyclic AMP¹⁴ and flunitrazepam.¹⁵

Ventricular Fibrillation and Hypothermic Oxygen

Recently, a Dutch cardiac surgeon investigated hypothermia oxygen therapy in 1970s in attempts to prolong circulatory standstill and measures to decrease a vital organ in a time when cardiopulmonary bypass techniques were primitive and hazardous. The results from his animal experiments in a Royal Netherlands Navy diving chamber pericardiotomy outcomes to build a large hypothermia oxygen chamber in Amsterdam where he successfully reduced the technique in patients with good results.¹⁶ Further developments in the field had largely stopped by 1970 when developments in cardiopulmonary bypass techniques had rendered use of large and expensive hypothermia oxygenating devices unnecessary. Historical records indicate the relevance to circulatory standstill was to considerably enhanced by use of hypothermia oxygen.

Experimental work has shown that hypothermia oxygen itself appears to have a significant antiarrhythmic effect by slowing the likely may third-order membrane processes¹⁷ possibly by reducing the available cellular hypoxia. This results from the metabolic cardiac oxygen rate results from VF. These effects appear to be present whether global or regional hypoxia with a loss of the arrhythmia. Van Eijs and Tjallingii evaluated the effects of 100.1 mm ventilation fibrillation induced by experimental coronary artery occlusion in dogs.¹⁸ Hypothermia (cooling to 28.3°C), prevents ventricular fibrillation in all the animals with

- [illegible]

● 2014 年 12 月 1 日起, 凡在 2014 年 12 月 31 日前, 取得《执业药师资格证书》, 且符合《执业药师注册办法》规定条件的, 可按规定办理注册手续, 取得《执业药师注册证》。

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French Emergency Care Systems

M.A. Howell

Introduction

French emergency care is structured very differently to that in the United Kingdom. The aim of this paper is to give a brief overview of the system in place for emergency care in France, looking at the pre-hospital scene and at hospital. A period of four weeks was spent based in Bordeaux, situated in the professional department of Gironde, the children's hospital and the pre-hospital emergency services.

What follows is an account of the results in France, with my own personal opinions about the emergency system.

Bordeaux is a little more made up

Bordeaux, with a population of 250 000, is the fifth largest city in France and is situated on the north west of the country. It is a major regional centre, culturally, politically and economically. It provides tertiary and quaternary medical care for the Aquitaine region of south western France, an area of over 60 000 km² with a total population of about 3 million, spread over five Departments, Gironde (33), Dordogne (24), Lot-et-Garonne (47) and Pyrénées Atlantiques (64) (Figure 1). The numbers are those of the medical Departments.

The major university teaching hospital in Bordeaux is Centre Hospitalier Universitaire de Bordeaux (CHU Pellegrin). This hospital is situated two miles from the centre of the city, among modern buildings, surrounded by parking and lots of open spaces, etc., with the exception of interurban roads, which is situated on the Haut-Lavaur Hospital, situated 40 km (25).

The personnel, vehicles and helicopter of SAMU (3) provide pre-hospital emergency care for the city and its suburbs. SAMU stands for Service d'Aide Médicale Urgente. It is the number of the Gironde Department of which Bordeaux is the major city.



Figure 1

Pre-Hospital Care

In the UK, pre-hospital emergency care is provided by Ambulance Services, which respond on a county basis. Paramedics and emergency technicians staff the ambulances. Rarely is a doctor deployed as a fixed ambulance. There are a handful of helicopters used for medical emergencies, the two known being the HEMS helicopter which operates in London and southeast coast, a doctor. The last service other than a flying first aid, does not provide patient care or transport.

In contrast, most French pre-hospital care is transported or provided by the fire services. Firemen are known as the *Sapeurs Pompiers* and their ambulances vehicles are known as *Véhicules d'Secours Médicaux* or *Équipes (VSE)*. These vehicles attend such emergencies as road accidents, are qualified by doctors in addition and will have the *Triage* paramedic qualification. They attend all medical accidents by day, accidents, medical emergencies, etc. However, French Law does not allow paramedics

*Support: assistance 80 weeks of Gironde Department and Emergency Medicines, a monthly salary paid to a fixed hospital Police and Gironde Ambulance Hospital Services.

Bordeaux



Figure 2

other than doctors to administer drug treatment or perform invasive procedures such as venous cannulation and catheterism, so the interventions of the various personnel are limited.

A ministerial circular of 1929 suggested the implementation of a service devoted to pre-hospital medical care and in 1956 the concept was further developed. The present day SAMU organization came from various initiatives of 1972 (creation of SAMU) and first used officially in 1973 and 1976. Each French Department is legally obliged to set up and put in place up to 10 English ambulances or two SAMU organizations of personnel, land vehicles and helicopters. The SAMU closely linked with the SMUR (service mobile d'urgence et de réanimation) which was founded in 1965. In Bordeaux the staffs and vehicles of the two organizations are shared. In simple terms, the Bordeaux SAMU (SAMU 33) responds to emergency calls whereas the SMUR is used mostly for transfer of sick patients from peripheral areas to the CHU.

The Gersone Department has its SAMU headquarters in Bordeaux, within CHU Pellegrin

together with another SAMU centered on surrounding towns and the helicopter base in Gersone and near Lacaze Gorge of figure 2. The Bordeaux headquarters have a full-time staff of 3 doctors, 15 nurses, 18 paramedics, and 14 administrative and maintenance staff. In addition, 30 doctors, 1400 on-call consultants on a rotational basis. The Bordeaux headquarters has 10 land vehicles, all of which are white (Figure 3).

4 Emergency Ambulances

- 1 Poolshare ambulances
- 2 Rapid response vehicles (paramedic/paramedic)
- 3 SMU 33, Ambulance 1 (An ambulance fixed as maintenance, Care Unit, exclusively for inter-hospital transport)
- 3 Major incident command vehicle

SAMU 33 has 400 vehicles in total. This is an "Ambulance 87" 40-year-old single-engine motorized fixed bed for medical examination (see Figure 4). During the winter months it is based at Bordeaux (Mérignac) airport and is deployed to



Figure 1



Figure 2

major road accidents. In July and August it is deployed in La Muga, near Llançars Girona (see Figure 1) and undertakes the dangerous A63 and C164 where many dangerous cases occur.

The Bordeaux SAMU HQ covers an area of 4 000 km² a year this is about 23 per day. The helicopter unit approximately 500 cases per year mostly in support of land operations.

Every SAMU unit, be it land ambulance or helicopter, carries doctors (physicians) considered as specialists. Many of these doctors are specialists in the emergency unit, emergency doctors with no interest in trauma. Before being allowed to work as a SAMU doctor there is a requirement to follow a rigorous two year training programme and gain examinations in emergency care. There is no UK equivalent of these SAMU specialists. There is a difference to the doctor such as paediatric, military doctor, a doctor in training, or a specialist in emergency medicine and a generalist who has an accident CEA (Centre de Capacité d'Accidents). To provide CEA a minimum of 100 hours of formal working, 22 half days in hospital, 25 half days in ambulance and gain various tests. Incidentally this training is similar to the curriculum by the Royal Paramedics which qualification is called the 'Triage'.

In France, medical helicopters are valued most and used widely by the SAMU in a last case they are when, or wanted and approved by the Régie Civile Ministry of the Interior and followed by the Bordeaux helicopter of the group. 90% of us looking to the SAMU that it has a secondary role, in other words emergency care. The crew of four consists of a pilot a navigator, a doctor and two paramedics. The aircraft is equipped with various tools for emergency care such as a fully stocked unit for land operations.

Both ambulances and helicopters are extremely well provided with medical equipment and drugs. All carry a deliberate ventilation system

monitoring equipment (ECG, pulse oximetry, capnography, respiration, blood pressure and central venous pressure monitoring for all possible) drugs and various life support devices. The medicalised medical unit has the capability to resuscitate patients and if they were in a small SAMU department. The SAMU is currently based in the form of patients, using Alaphon, 24/7 and drug in the form of other medical emergency services around the hospital. There is a medical centre to conduct UK, private, public, and, in some cases, within an emergency unit, and a medical centre for which drug therapy is considered before arrival at hospital.

The French public has free access to the emergency services. In the UK, the 999 telephone number is used for all three services and three separate telephone numbers in France:

- 15 SAMU Medical advice
- 17 Police
- 18 Sécurité/Paramedics

However, the system is called free in accident, but patients are charged for emergency care. The SAMU is not called directly by the public, but the 112 and 119 (which are not a public number) are used. The 112 telephone number for the medical advice. For the reason the Bordeaux SAMU has a general physician in a control room between 0900 and midnight 365 days a year.

The SAMU control room is manned 24 hours a day by a medical professional in a small SAMU unit, along with various medical equipment. As used above a general physician is the available staff of the team for advice, calls. There are direct links with the various hospitals and police as well as other units with all SAMU vehicles. There is increasing competition by the use of the medical team work in call

class etc. Advice is always available from a parent support nurse. If one of the on-patient doctors wishes to do the parent hand transfer to the appropriate part of the hospital emergency. Staffing levels are generally increased to the UK. Because of these factors, guidance is provided. All emergency consultations are undertaken in line with the parent of delivery. My opinion is that the system is efficient, but there is little in the way of advice about available on-site parent support, waiting on the main side of the department. Furthermore, there is no provision of Emergency Medicine in France, so there is no emergency situation.

Patients with major injuries are seen in the 'Emergency Lounge' or consultation area of the department. This has eight beds, each equipped with the same level as a French intensive care unit (ICU) but 1 000 patients per year are looked after mostly victims of motor-vehicle injuries. These patients are transported to Bordeaux from all parts of south western France, often by helicopter. Patients are not screened and all emergency procedures are performed whilst the patients are in 'beds'. A dedicated x-ray department, including a special CT scanner is located adjacent to the unit and is immediately available 24 hours a day. There is also an operating theatre block of three fully equipped theatres, adjacent to the unit, in which theatre, all surgical procedures, including neurosurgery are performed without the need to transfer patients.

Patients are kept in the department area for at least 24 hours after their arrival in hospital and there is a low incidence of readmission upon leaving at home, school or into the care of relatives etc. Other operations (eg. neurosurgery, plastic and orthopaedic surgeons) treat the patients but the latter remain under the care of the neurosurgeon in order to ensure a holistic, co-ordinated approach to the patients' problems. A mobile paediatric unit is in place in the unit 24 hours a day with every service personnel available within the hospital throughout normal working hours.

Patients are reassured according to clinical needs but few patients are in place in particular in the Advanced Trauma Life Support (ATLS) system that practices a standardised protocol to UK and North American practice where trauma patients are managed according to dedicated guidelines. Only one of the French doctors had completed an ATLS course, supported by hospital clinicians as witnessed. My personal feeling was that the French could benefit from enhancing the ATLS concepts, particularly with regard to the cervical spine and their recognition of

extended systems of haemorrhage (eg. in children). The Pediatric Intensive Care Unit is used to bring the ATLS system to France, but language remains a major obstacle.

Other facilities within the emergency department include a 20-bedded observation ward, each bed has an own bathroom, no nurse station facilities. This is used for children patients from the department before they are transferred to intensive care or surgical wards as able for observation patients who remain in the ward etc. The observation ward is staffed by junior doctors (including a paediatrician) but with close supervision from anaesthetists and nurses.

Minor emergencies are looked after in the medical department of the hospital, which is geographically and administratively distinct from the emergency department as described above. There is a low bedded to consultation area with four mobile wards. Most patients arrive after having been brought in by their general practitioner to some extent direct from the SAMU. All medical procedures are represented at CHU Pellegrin's 'Acute Hospital' or another hospital in central Bordeaux, which was the first spectrum of medical emergencies. My time in France was too short to allow me to spend any time in St André.

Paediatric Emergency Department

This department is unique in the history of child clinical in hospital in CHU Pellegrin. The department sees 26 000 children per year as seen for the full spectrum of childhood illness, whether represented via the emergency department or in the department lounge area of the emergency department (see above). Many of the patients are non-English speaking children of foreign origin. They have no regular general practitioner or for second opinion or a regular centre of treatment.

The department has a four-bedded observation area, five consultation rooms, four mobile x-ray (portable), a plaster room, minor operations theatre and a waiting area. There are no dedicated X-ray facilities. Adjacent to the paediatric emergency department is an 11-bedded paediatric ICU occupied mostly by neonates and children with serious medical problems. Anaesthetists and paediatricians usually do nothing but day-to-day supervision is by a mobile paediatrician. Most of the patients are from 1 junior doctors (French) and others equivalent of specialists are from the department. The department usually has orthopaedic, neurosurgical paediatricians in house. Overnight the

are one general or problems raised in the responses.

France has allocated its personnel to act either as colleagues or as medical/patient care. An allocation is carried out by supervisors in areas. Unlike the UK, there is no hierarchical care system, but patients without insurance do not go into disaster.

All patients in hospitals are also treated in emergency services, so medical staff in their departments with diagnosis or management can be called. This system also acts as a useful training opportunity and typically lasts between 1 and two hours. The system takes place in an informal setting, with much liberty and friendly comment.

The standard of clinical care is generally high although several problems have often been raised (e.g. anaesthetics, infection, obstetrics, paediatrics, etc.). The hospital authorities also regularly publish RLLP's (Relevés de Lésions des Lignes de 1^{er} Hospital) which support current protocols for patients seen in the emergency. Some changes which have been largely abandoned in the UK are still practised widely in France (e.g. minor wounds and lacerations for poisoning, the Advanced Paediatric Life Support (APLS) resuscitation, which have revolutionised the way in which severely sick or injured children in the UK, in recent years are usually treated in France).

Insurance and Lesions Élevées

In France medical systems would be called and this generally does for the emergency services, as in the pre-hospital environment and in emergency departments. The French institutions 7% of their Gross Domestic Product (GDP) in health care, a significantly higher amount than the results which previously it was 7% of GDP.¹ This change in percentage of GDP is accounted in partly by higher income but largely by more personal health insurance provisions, both in public areas of welfare problems and also in high in France. This may change with a current political pressure to control health care costs.

One advantage of the French pre-hospital system is the large number of well-qualified medical personnel providing care outside hospital, but this is at the cost of increased in hospital times taken for patient medical "bureaucracy". There would seem to be obvious advantages to use of hospital doctors for training

the students in a patient, however, into the life support, and not on the basis of the importance of training system. There has been much debate in the literature about whether the UK should have helicopter for patient transport² and also whether there should be French training system especially in the light of the recent Airbus A330 crash.³ French does have regional training centres such as the others. Although these facilities are not perfect it is difficult to imagine the dominating of the French regionalised system of training with helicopter transportation.

Emergency Medicine is well established in a specialty in North America, Australia and the UK. It is not as established Europe. In France emergency care of medical problems is provided by general physicians whilst patients with major injuries are looked after mainly by specialists. The most junior hospital doctors work under supervision usually look after these patients with so-called minor injuries. It has been shown in the UK literature that it is on this group of patients that many mistakes are made and many medical legal problems arise.⁴ It is felt that France would benefit from the development of the specialty of emergency medicine to coordinate management of all patients with major illness, whether it is trauma or that internal medicine.

Cardiacs are seeing increasing popularity in emergency medicine in the English speaking world particularly because relatively emergency doctors deliver much of the heart and patient care. These problems are complicated by systems of care such as A&E and A&LS⁵ which have not yet been accepted as much of France.

Medical is high throughout these parts of the French health care system which I experienced. Medical are taken together as a team, emergency, internal medicine, and trauma as important part of the way of life in France. However, when asked to meet medical staff members of staff from professions to doctors are posted daily on duty with a few on each shift, then every other member of staff. Though aware whether French medical would adopt this position I can see that it gives a long way to maintaining the *Equipe de Soins* of the French health care system.

As a result of my visit to France, I have made many new friends and had a welcome to spend at French students, although my French has come on a little and a little. There is also the opportunity for social and military doctors supported in emergency medicine to visit and to

the patient's illness and her response to it. It is not a cure, only a way of life. I cannot finish.

Footnote

My love to Rudi, who is as good as dead. It is hard being from the Ministry of Death.

Acknowledgements

I would like to thank Dr George Geyrhofer for providing me with initial assistance, Dr Francis and the Professor Duboczi, Dr George Dr Marica and Dr L. Perna for making me so welcome during my time in Romania. Figure 2 is reproduced from *Microbial Ascidiae* (Sperma).

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An evaluation of self-administration of prescribed medicine protocol for Royal Marines under training

I D Piper

Introduction

Every two weeks fifty to sixty to more aged British 16 and 20 year old male Royal Marines in stock upon the most demanding basic military training in the world. Hopefully to pass out as a Royal 66 para Commando after 30 weeks later they will, longer than 30 weeks as para in the conditions of injury or illness at high OADR (up to 90% appearance in the Nursing Officer in TCRCM). I spent one week in the training with a step in training to gain an appreciation of the nature and problems encountered by RSM units. During the period I observed that some units who had been experienced in the handling of problems with medication compliance as part of their on going therapy. I decided to look at some of the reasons.

The RSM unit in TCRCM has an 18-bed ward in addition to the usual primary care facilities, administered by the ward staff (nurse) to service medical staff at 1600 hours (night) or during evening hours continuing to training for a few days. On discharge from the ward patients are moved to Comm unit training or more into medical training and fully fit. In some instances they may require and be responsible for self administration of medication. Lack of knowledge and understanding and compliance and I thought it important to review that their training on had the opportunity to learn sufficient about medication and its administration to ensure compliance.

The ward had a theoretical nurse round for administration of medication as well as some special ward rounds. I found the ward staff the usual failure of the ward staff the medical complex among a Royal Marine Reserve under army action and subsequently defined procedures for training development for medication

administration in preparation for their return and self administration of medication (SADM). I suggest initially the reasons as part of my studies in research apply, not to training process at the University of Plymouth.

Background

Prescription of medication 20% compliance may not be understood as prescribed. Patients and health care professionals have different perceptions of non-compliance with most patients taking their medication according to how ill or well they feel. There are suggestions that non-adherence to medication requires a major factor in exacerbation of symptoms and subsequent readmission to hospital. Traditional nurse administration of medication is based on being based on principles of prevention and help, and not considered as a patient proposition for the patient's return to a more independent living arrangement. Attempts to demonstrate a relationship between compliance and self medication have not been successful due mainly to small sample numbers or no definition of increasing compliance.¹

Patients who have good knowledge of their medication are more likely to comply with prescribed regimens than patients whose knowledge is poor.² SADM generally means that by knowing about drugs through patient and management process will become more likely to understand and their medication and will be more likely to comply to take them correctly on discharge from the community from which they came. SADM programmes are designed to help the patient use the education process with either in the ward or the ward as allowing awareness of how an individual is likely to cope over time, at home or in the clinical practice as extended training or back into Community Care. Daves considered that knowledge of side effects and what to do if they occur prevents that in the education process. Royal identified great emphasis on self education on

Received 19 May 1991. SADM (SADM) is a community training in the RSM unit. SADM is a training programme for the RSM unit. SADM is a training programme for the RSM unit.

individuals of knowledge and learning, although based on work by Knowles.¹ Even so, even that the most important finding was the need to tailor educational programmes to meet the needs of the individual. Many strategies have been proposed to achieve patients' needs for education. The evidence suggests that no single strategy is superior to another nor is any one approach effective for all patients. Written educational guidelines for the facilitation of adult learning.

*We have used what is appropriate to our purposes. Consider participation strategies, motivation, the strategy and role of learning.*²

Evidence using education advice that advised that for any such S&M programme to be effective all facilitator personnel should be involved in patient education supporting verbal information with knowledge for education.³ Play and Holaway⁴ studies emphasized that patient based written sources of verbal information desirable.

Ethical and professional considerations

Klein's study investigated and cited the UCC's⁵ standards for the Administration of Medication⁶ and identified the nature of the nurse's role is:

Ensuring the understanding of patients in respect of their prescribed medication and ensuring the safety of them and other workers.⁷

The UCC's⁵ recommend that S&M is essential and worthwhile - that it should be used more widely to enhance patients' knowledge of their drugs and to prevent medication both errors considered to promote compliance after discharge. The drug control agencies the thought of individuals and demands that everyone takes their medication at the same time offering little scope for teaching programmes from their medication.⁸ The curriculum of S&M in CTRM would be in line with the conclusion that patients have a right to be knowledgeable and responsible for their own care.

The Pharmacy and State Board of Pharmacy (PSB) has issued guidelines for the administration of S&M. From the literature available the approach to the only governing body for nursing the has revised guidelines at state level for all nurses to adhere to. The guidelines are comprehensive and some of the format has been adopted in the CTRM process for S&M.

An early there were no real barriers to implementing S&M in CTRM. The Pharmacy Medical Officer indicated any means to that to improve patient knowledge or compliance are mandatory under a trial period.

Implementation

An informal implementation committee is by itself was set up. It included the two Practice Medical Officers, the other practice RN and a senior MA and agreed the practice of S&M.

It is clear that involving staff and involve in education programme comes to ensure patient and ensure leadership of a project.⁹ Defining the on site subject in the proceedings particularly in members such as prescribing doctors, is essential for the success of any S&M programme.¹⁰ The process of implementation started without nurse training of the Medical Centre staff. Initial resources played a role to ensure any communication a full understanding of the process. This was identified the benefits of S&M early on its implementation process and had clear guidelines to follow.

The Medical Centre is essentially a primary care facility without patient facility for those who are relatively "well enough" as individuals or group. Thus, it is an S&M based competence consultation and prescribing facility offering a individual dependency of medication on a more patient basis. The large provided the basis for much of S&M with the programme to be in patients being dependent and patient based on their individual care. There was no long, a need for the drug supply and with a provision of individual medication and a fit to respond.

On admission to the ward the patient receives a for continuity to S&M in accordance with the CTRM standards as in Figure 1. If found to be suitable the patient receives advice on appropriate medication from the consulting doctor or the relevant Practice responsible for S&M by medication administration and to form as the medicine needed by ward staff. Each patient is reviewed and may proceed to S&M when safe to do so. When the medication is dispensed to the S&M patient it is given on the appropriately labelled containers used by the patients and the Pharmacy Dispenser provides further information explaining what and how to take it medication. Verbal education reinforced on written material is effective with use of medication booklet containing such provide

TWO SIXDAY SEMINARS FOR PATIENT SELF-ADMINISTRATION OF MEDICINES**A self-administer medication the patient must be able to**

Recognise the name and recognise visually their current parenterally administered drug is safe capacity either today/tomorrow
Measure, pour and administer the prescribed dosage of the medication
Sign the personal medication sheet as acknowledgement of having taken the medication

Co-operate in co-operative attitude in all aspects of self-administration of medication and be considered capable of self-administration by a Medical Officer under Registered Nurse. The patient must not self-administer if they are considered at risk of potential self-harm

RESPONSIBILITY OF THE REGISTERED NURSE / MONITORING ADMINISTRATION

Check the medication is for the correct person, appropriate medication dose, frequency, duration and within its expiry date

Ensure the necessary criteria for self-administration and the patient's ability to self-administer medication safely in the case of patients unable to self-administer, meet a Filled IQ and administer medication in the traditional method intravenous and subcutaneous drugs will be administered to this monitor and have the instructions on Filled IQs also

Provide the following information about the medication to the patient:

- a. Reason for taking the medication
- b. How often, how much and duration medication is to be taken
- c. What will happen if medication is not taken
- d. What will happen if medication is taken excessively
- e. Possible expected side effects of the medication

Assess the patient with the appropriate medication advice sheets. Encourage and answer any questions the patient may have

Observe and evaluate the patient's ability to safely carry out the usual self-administration of medication. If the patient is too tired to read the written advice to take medication at appropriate intervals and needs time then he is able to take the medication unaided

Explain the importance of taking medication at equal intervals to achieve optimum and therapeutic level. Assist the patient in completing and maintaining their medication chart by reminding them on occasions to update it. Check the medication understands the assumption and explains why they are not updating the chart. If any dose is missed immediately advise the IQ or Filled IQ

Monitor effectiveness of medication and observe for side effects

Figure 1. Protocol SAM

ing. On admission to the ward the ability of give a further explanation of the medication, explaining on why the individual patient must take it at the intervals specified and avoid side effects. The patient is invited and encouraged to read the locally produced education advice sheet which the staff use as a reminder for the verbal advice. Patient compliance with SAM is checked and any non-compliance corrected throughout the

stay. Recommended daily review of patient drug regimen with Medical Officers is performed with good effect.

Evaluation of the ward

Each patient's medication record sheet, which they use, is completed as long as they are taking parenterally the ward. During evaluation of the ward, current medication status, cases in which the drug regimen equal the advice was provided local

ETCRIN MEDICAL CENTRE IN-PATIENT MEDICATION QUESTIONNAIRE

1 Name _____ Today's date _____

2 Please complete the table below

Medication/Name	When do you take it?	What do you take it for?	What are the side effects?

3 What other information do you know about your tablets/capsules not stated mentioned above? (For example: how to store it or should it be taken with meals etc)

4 How do you like to receive information about your tablets/capsules? (You may draw more than one)

As written (tablets)

From talking to pharmacist

From talking to Doctors

From talking to Pharmacy staff Other (Please state) _____

5 Please mark with a cross on the line below how satisfied you are with your knowledge about your tablets / capsules. (0 indicates not at all satisfied) 7 (but not complete satisfaction)

0 1 2 3 4 5 6 7

6 Please mark with a cross on the line below how confident you feel in taking your tablets/capsules (0 indicates you require lots of help/ support to take them) 7 indicates complete confidence

0 1 2 3 4 5 6 7

Adapted from NICE (1999)

Figure 3

number of doses of medication received. Any discrepancies are discussed with the patient. In particular, the only consequence was for the patient to forget to record the time at the medication was self-administered in this method of monitoring. Some firms distribute drug levels, pill counts and pharmacy records, but not always, practical or reliable. However, even without this compliance with prescribed medication at the time was satisfactory.

To evaluate patient knowledge and perceived

medication compliance the use of a sample 16-point patient questionnaire adopted from Nay¹ was used (Figure 3). Shortly after the introduction of the CTRM SAM protocol the questionnaires were mailed randomly to 15 consenting, inpatient Royal Masons Hospital patients prior to discharge (long after the visit). Medication advice sheets as issued on admission were available to the individual throughout a reference to them at presentation stage is impossible.

All patients identified their prescribed

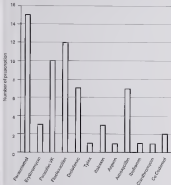


Figure 4. Representation of type and numbers of medication prescriptions

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RNMS Website

The Royal Naval Medical Service now has a website on the internet. Its primary content is recruiting material, but there is a sizeable section representing the Institute of Naval Medicine. It is planned to expand this site to cover all aspects of the branch with information for both service and civilian visitors. For instance, an electronic version of this Journal is covered and Contents page will be introduced in the near future. Any contributions or ideas are most welcome. Please submit to: Sergeant Lieutenant Commander Mark Gleave, Undersea Medicine Division, Institute of Naval Medicine, Alverstoke, Gosport, Hampshire PO12 2DL, or e-mail to yc20@naval.psg.com. Contributions on floppy disk, CD rom or other electronic format are preferable.

The internet URL is <http://www.cymil.navy.mod.uk/rnmsocsp/>. Those with access to ISLWeb, CHOTS or NavyNet can find a mirror of the site within MCGSMB's mirrored site.

Pelvic Synovial Cyst Formation Secondary to Perforation of the Quadrilateral Plate: A Case Report

G E D Howell

Abstract

A 40-year-old woman presented with pain and a lump in the right hip. She had a previous right hip arthroplasty and pelvic trauma. Despite previous bleeding, the joint effusion did not respond to anti-inflammatories and antibiotics. The pain increased and a synovial cyst had been aspirated 15 years later. The cyst was aspirated, removed by the quadrilateral plate, and the right hip debrided. The quadrilateral plate had a 1-cm crack, caused by a fracture 1 year after the previous hip arthroplasty. The quadrilateral plate had been perforated by the metal neck of the acetabulum of the old prosthesis. Following aspiration of the fluid, the cyst was removed by the quadrilateral plate. The quadrilateral plate was subsequently removed. The quadrilateral plate had been exposed previously.

Introduction

Total hip arthroplasty is a successful procedure that has benefited millions of people. Complications techniques for both the acetabulum and femoral components have been developed as an insurance against the major complication of aseptic loosening associated with cemented total hip arthroplasty.

Intra-articular complications of cemented total hip arthroplasty are well documented.¹⁻³ An report of transacetabular acetabular cyst formation secondary to severe penetration of the quadrilateral plate into the acetabulum after total hip arthroplasty. This complication of cemented acetabular fixation has not previously been described.

Case Report

A 40-year-old female presented with pain and a lump in the right hip. She had a total hip arthroplasty 15 years before. She had been extremely active and was experiencing pelvic discomfort and episodes of bleeding per vagina.

The right total hip replacement had been performed for osteoarthritis and a 1-hole Moore acetabular cup (Moore, Warsaw, Indiana) had been impacted into the acetabulum and secured with three screws. On the acetabular post-operative radiograph, there was observed to



Figure 1

perforate the quadrilateral plate.

The year following a low right hip arthroplasty had shown a well-functioning well tolerated full range of motion and could walk many miles with ease without symptoms. She occasionally experienced discomfort, which she described as non-specific and confined to mainly. Radiographic examination demonstrated that the acetabulum were perforating the quadrilateral plate, had caused osteolysis about it. Material was visible on polyethylene near the rim of the cup (Figure 1).

Examination of the patient's pelvis by her gynaecologist revealed, deep tenderness and a bulge to the right side. Some 40 ultrasound demonstrated a cyst within the right half. Both which was reported to be a synovial cyst and 100 ml of synovial fluid aspirated into the cyst. Under fluoroscopy the contrast medium was used to fill the cyst cavity and subsequently

Stephen Geoffrey Howell is currently serving at the Royal Naval Medical Centre.



Figure 1

preparation of the post via the space surrounding the articulation surface, which had prepared the postulated plane of view (D).

Microscopic examination of the final demonstrated a tooth by dental fluid with no evidence of infection.

Discussion

Integrative epigenial cyst formation following epigenial root tip orthograde has not been previously described. This report highlights a complication of perforation of the apical root canal wall with denture wires, which presented as postoperative pain and irregular post surgical healing.

There are at least three epigenial forms about the pulp space,¹ all of which may become enlarged secondary to pathological processes. Integrative epigenial cyst formation has been reported as associated with subcutaneous and following treatment root tip orthograde,² when associated with apical abscesses and perforation. Parodontal forms are following treatment root tip orthograde has also been reported.³ Integrative epigenial cyst formation has been reported following extraction⁴ and associated root tip orthograde and may be associated with crown overfilling, lig post tip working⁵ or deep root canal preparation.⁶

It has been postulated that epigenial cyst formation about a root tip orthograde occurs secondary to microleakage with the post. Cyst formation will occur along the path of least resistance and in the case, described above this was along the access track with the occlusal cavity.

Integrative epigenial pseudocyst formation during treatment root tip orthograde is associated with postoperative swelling and neurological complications.

We report a previously undiagnosed epigenial form of epigenial root tip orthograde in association with perforation of the apical wall of the root canal by denture wires that penetration of the apical lateral plate should be avoided.

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Middle term results of a cementless threaded self-tapping acetabular cup

H G Pandit, C J Hand, J L Ramco, N S Pradhan and N A Boyd



Figure 1. Threaded self-tapping acetabular cup (type 1) (RAMPE type 1).

Abstract

Thirty-eight type 1 acetabular cups are available for cementless fixation in patients undergoing total hip arthroplasty. Excellent results in all these cups that is the fixation of the acetabulum. Long-term results are reported in this paper. We present an analysis of 146 cups with tapping threaded acetabular cup with metal backing like ACRO acetabular cups. This is a study of 41 hips with average follow-up of 4.45 years. Increased growth of the bone may indicate in and around the acetabular cup is noted. No longer loosening. No case of type 1 cup cup

implant in total hip replacement. Long-term results are reported.

Introduction

Acetabular loosening remains to be a major problem in all types of total hip arthroplasty. Cementless fixation is supposed to preserve bone stock and allow easier removal than cement. Although cement is resorbed about 10 years/centimetres, cementing results have been associated with delayed osteolysis acetabular cups. Various designs are available e.g. threaded, porous ingrowth, HA coated etc. Threaded cups can be made with metal metal backing and with or without polyethylene. Thin-shelled acetabular cups can be cemented or cementless.

We present our experience of self-tapping threaded acetabular cups with a metal backing (ACRO). (Mansueti, 1981)

Mr Pandit was Training Specialist Registrar in Orthopaedics, Regional Committee, Consultant Staff in a Specialist Registrar in Orthopaedics, Mr Pandit is a Lecturer Consultant in Orthopaedics and Mr Boyd is a Senior Clinical Lecturer in Orthopaedics. All are with a Hospital Unit of Wright Medical Centre, Specialist Registrar in Orthopaedics, General Hospital.



Figure 1. Initial radiograph of threaded acetabular cup.



Figure 2. Late radiograph of acetabular cup without any evidence of cup migration or loosening.

Cup design and metallurgy

The cup is a metal back with tapered threaded acetabular cup made by 304 fluor titanium alloy (Figure 1). It is hemispherical in shape and has an approximate 50-mm diameter. The UHMPE liner is an α type of metal liner namely 3 (it will 50 degrees long and to give great coverage). The 304MP (Ultra High Molecular weight Polyethylene) liner is inserted into the metal back with a thermal lock when chilled in a cold cabinet.

Materials and methods

From our research (45 hips) performed total hip arthroplasty (between January 1989 and December 1990 using ACS/TA cup, Thompson-U lig coded) of implanted cement free plans after the metal procedure and two patients (2 hips) were lost to follow up. The remaining 43 patients (44 hips) were reviewed in a structured clinic by the senior surgeon N. A. Barry.

Patients with inflammatory arthritis, osteoporosis, significant comorbidity, dysplasia and

osteotomies, disease were excluded. The index side for surgery was posterior to primary OA or 30 hips while 13 (29%) OA was secondary to infection.

Patients underwent total hip arthroplasty in the lateral decubitus position using posterior/anterior approach. After cement preparation, the acetabulum was treated in sub-landed form. The cement were in 3-mm increments (solid numbers). The actual metal back acetabular shell was also in 3-mm increments (solid numbers) so that the acetabular depth/width was 1 mm smaller than the first number used. After completing the drilling in acetabular metal shell, the liner was prepared in the same fashion. An anteroposterior lateral component was inserted. Herring implanted the distal femoral femoral component, a distal acetabulum was cemented with 304MP metal plastic liner. The one surface of the liner giving the most stable retention was placed for implanting the proper UHMPE liner. It was chilled in a cold cabinet for 2 minutes and introduced into the implanted shell. Thermal lock was prepared after 1 minute. The hip was reduced and hip blood in the acetabulum.

Exclusion: Patients without a postural height bearing for a period of 6 weeks.

Follow-up assessment

Patients were followed up at 6 weeks. A routine audiotape yearly assessment at 6 months was done by the senior surgeon. Clinical assessments included functional grading by Miles D. Aubrey-Guest. All the patients had a standardized AP pelvis x-ray at yearly follow-up and these were compared with the standard post-operative film. The radiographs were evaluated for cup migration and loosening (Gustafson method)¹ presence of osteolysis and subsidence.²

Results

The average age at the time of the index procedure was 57.8 years (55-72). The average weight of patients at the time of surgery was 71.3 kilograms (56-92). The mean follow-up was 6.43 years (5-7.7) years.

Clinical evaluation

Postoperative Miles D. Aubrey-Guest and Powell score³ functional grading of the hip varied from poor (class three or equal to 7) to 'G' (equal to five (9 to 14 hips). At the time of the last follow-up, the sides had improved to more good (11 to 15) to 'G' hips and one good (15) to 'G' hips. None of the patients had progressive limb length discrepancy any more nor the complication of infection.

Anteroposterior X pelvis

The average migration of the distal part of 'N' was 3.3 mm (0-4.8 mm) while the distal part of 'Y' was 2.2 mm (0-5.8 mm). The mean change in the angle of the cup inclination was 2.39 degrees (0-6 degrees). None of the hips showed any osteolysis or subsidence, of Zone 1 or more, any of the 3 modular zones. Two hips showed patterns of subsidence lines extending over zones 1 & 11 (10 mm wide) but these were stable over a period of 3 years and patients were clinically asymptomatic.

No revision was needed in the group for cup migration of the modular cup.

Discussion

A literature search of cementless modular cup designs revealed conflicting results. Cementless revision rates of 3.3% (5 years) and 7.5% (8 years) have been reported by Howlett et al using various designs of cementless acetabular cups. Large differences were noted between different cup designs. Howlett noted 11 commonly used cups

in 4752 patients undergoing primary THA, in the subgroup of cemented acetabular cups with most bearing results revised for loosening 1756 cups (45%) to a cumulative 6 year revision rate of 21.4% (4 to 1985). The all polyethylene liner cups (30-524) had a cumulative revision rate of 1.4%.

Howlett et al have reported a similar revision rate of cemented acetabular cups (17) which rose up to 5-6 years. None of the patients showed any signs of cup migration or liner wear.

Simonsen⁴ (University of Stockholm) reviewed 315 hips with a mean follow-up of 5.70 years. They found 70% of patients to be clinically good with no osteolysis and no cup loosening (18-19). They found that patients with a reliable radiance of their pelvis a short way post had significantly more cups. They had a revision rate of 3.5% (12 hips).

Howlett et al⁵ suggested that as the specific biomechanical interaction of the acetabulum physical overloading between the cup and supporting bone tissues might be a prerequisite for long-term stability. Howlett et al⁵ felt that cups and cup design play far more important role than the patient related factors in determining the longevity of the implant. Proper patient selection and proper choice of implant are of paramount importance. Patients with poor bone quality (osteoporosis) < 65 year old and women have been shown to fair extremely well. Cementless modular cups are used.

Loose et al⁶ performed an early studies to find out the interface characteristics of acetabular cup prostheses. Cemented threaded, locked and porous cups (both with and without supplementary wires) designs were tested. In the cemented subgroup the cups with external threads were found to be, significantly more stable than those having less external threads. Porous cups had better stability.

Various designs for early failure of cemented acetabular cup have been proposed. Macmillan and Kirkham⁷ found that these cups have a tendency to move anteriorly in the socket into distal or ridge and base. The threads do not engage satisfactorily from sufficiently well. Howlett noted high rates of osteolysis in the base and had threads and also significant areas chipping at the base on the apex of the distal and between middle threads. Blythe showed that these areas were ignored if they the cement process osteolysis and cup revision. This indicated bone resorption. Subsequently introduced for design of effective joint space. This included all the

intermediate reports that are necessary to pass first and then parent, doctor. As noted before, if the first school teacher would send appropriate messages, this does not fit the case with the study design thereby explaining the early failure.

One study evaluated adolescent back smoking up and smoking. At the average follow up of 4.11 years most of the parents had needed reasons for higher frequency of cigarette use. Current assessment has been highly satisfactory without any discontinuation over the follow up period and no cases of cessation or significant migration of the top rated. We did not observe parents who quit smoking from back to front top up. The average age of patients undergoing the procedure was 69.8 years at the rate of entry, moderate with many of the patients younger than 15 years. Both these factors may have significantly contributed to the moderate results observed. We are continuing to follow up these parents on a yearly basis with data analysis to assess the contribution to the results in terms of the long term results.

A valid criticism of this study was the use of tobacco and nicotine dependence and nicotine dependence. Unlike BMA, Netherlands and other studies, methods will only show some correlation and are unable to detect early exposure or increasing. They may also be the reason for evaluating a person with clinical symptoms possibly due to increasing in a more objective way. Previous changes of less than 4-5 mm or less than 4-5 degrees can not be reliably measured.

Conclusion

Adults were made of the particular design of off-tapping tobacco smoking up and middle school are encouraging. Parents have a good

knowledge of why, what, and how to reduce the follow up period. Kids (youngest members of the family) are significant changes in the top cigarettes. Most of the patients in this study group moderate rates for signs, however. These signs of improved properly or appropriately selected parents can give good results.

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History

Subsmash in Liverpool Bay – A Medical and Naval Disaster?

R A L Agnew



A flower in bloom (HMS Flower) listing and sinking (M20)

James Lind (1746-1794). Other oil seed barges were in 1768 in the orbit of Patrick Bransfield – but only smaller Ships of War are employed – and armed with cannon and manned (unless their crews or voyagers desert) and suffered (unless they are in retreat) as battles – the enemies in Her Majesty's Service are in general healthy – too close confinement in the ship and that air – may also create disease.

Three years marks the 100th anniversary of the submarine disaster which took place in the early days of June 1918 just before the outbreak of the Second World War. Those of us alive in the rain of daily newspaper pictures of the scars of the

stricken submarine HMS Flower sinking on shore the surface (Figure 1) and leading to the response in the Press: 'Thank God they're safe but it was not before'.

The nation was appalled all the more so because HMS Submarine Flower was bristled not with all the latest technology including the construction of two escape chambers, the prototype of the Diver Submarine Escape Apparatus (DSEA).

However the later Tribunal concluded the three hull-breaches insufficient to cause the submarine to sink. The board is sceptical about hull penetrations. Nor were the dangers of compression with gas in the crew, CO₂ poisoning (and its effects) fully appreciated at the time.

'What had gone wrong?' The court members the court were several factors among responsibility

Dr Agnew is a retired consultant chest physician



Figure 7. Boat crew hoists torpedo. Tor in locked position.

Complex blocking of a vent impeded this work by human error.

Opening of a rear door while the bow cap was open to the sea.

Fulton, aboard Flares, locked the first water-tight door between the Light Space and the Torpedo Storage Compartments.

Fulton to expel water from the two flooded compartments.

Fulton of those aboard Flares to escape by DASH, escape for the four survivors due to the effects of sudden demands following.

Torpedo at dawn, on the surface, under effective command.

a few hours ago.

Mr McKewen, Chief Salvage Officer of a small ship diving in the Liverpool Bay, did not arrive at the scene until the morning of 2nd June.

Submersible, the Navy's own deep-diving ship, set another off buoyancy on Loch Fyne with a very 10 teams of divers in view to work at depth of 500ft. only arrived at Flares at 0300 on 2nd June.

Captain Macgregor, Chief of Staff to PEO Submarines did not arrive at 0400. His submersible was at 1700 on 2nd June. 16 hours after

Flares had finally disappeared. The Submersible noted: "Salvage men for the first experience under the orders of an experienced senior officer with successful outcome."

However, the last facts of the Disaster: 1. A failure to replace them in more detail.

There was the first of the TGLs in its back at Cornwall, Landed in the North Sea, and was commissioned on 10th March 1974. Chief Commanding Officer was Lieutenant Commander Guy Butler. During his visit to Agard it was found that her steering gear had been fixed, incorrectly and her first diving trials in the Corfu had to be abandoned as the forward hydroplanes jammed. The diving trials were therefore postponed until June.

There had six external 22-inch torpedo tubes mounted on the bow. They were arranged in two rows of three, all three each, numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Obviously the bow cap and rear door should not be open together at the same time! Each rear door was fitted with an explosion lock in order to act if there was any water in the tube.



Portrait of Captain H. G. (Frank) Shaw

down below a further attempt to use the after escape chamber had failed as two men had been unable to open the hatch at the top of the chamber. As they returned to the White and Engine Room with the deck at a very steep angle to the horizontal the door of the escape chamber was opened so far there was a gas one. But the crew were overcome by the effects of carbon dioxide. Indeed some of the flooding relief, which was still open to the sea. The survival water in thought to have pushed up the already high level of carbon dioxide so that some of the White and Engine would have been killed by the gas rather than being drowned.¹¹

There is a remarkably complete set of the reports of the 1916 rescue of the tragedy also was Petty Officer Harry Penfold a Royal Naval who developed the bomb and died as the decompression chamber after diving to rescue a ship wreck in August. Even then there was an acute medical need of emergency at sea, immediate he had

intended wearing of the bomb but to old pulmonary tuberculosis, which must have impaired his respiratory function. Therefore he had never had to have photographs.¹²

The damaged submarine was eventually beached at Muller Bay in Anglesey just after the outbreak of war with Germany on 1st September 1916.

She was made to accept and towed back to Portsmouth on 10th November. Further repairs and it named HMS submarine Thetis-class. She subsequently served in an attack on Alderney, carried out a marking exercise shipping in the Mediterranean. On 10th March 1917 she was finally depth charged and sunk by an Italian converter off Cape San Vito on the north coast of Sicily with the loss of 82 men before most and survivors were recovered.¹³

I should like to finish with the words of Captain Green (Page 7) in his report to the Admiralty written on board HMS Dorset in Liverpool the next day 16 June 1916.¹⁴

He concludes his account of the tragedy

I wish to make known the very gallant behaviour of the men involved there. I find no sign of panic at any time and without single exception all men showed great courage. When anything had to be done men went to help and even when a breaking became necessary men worked most bravely and cheerfully. When killed and injured men the first or second death in different spirit. Right up to the time when I left I heard no word of complaint and I saw no signs of signs of the first which I knew to be in our minds.

EPH.00210 What happened in the 1st submarine?

1 Lieutenant Wood was killed as a RDT on duty on the South of France while serving on the staff of the 1st L. Malta in 1916. He is the holder of the DSC for services as destroyer during the war.

2 Leading Stoker Aslett having serious serious injuries was at WWI. Died at home in Port Sunlight in February 1914.

3 Mr Frank Shaw the Counselor and later the in 1911.

4 Captain On to died as Submarine on June 1917 aged 55.

Visitors to the Maritime Museum at the Arthur Clark Lighthouse may now display the Volunteer's Bill of Merit together with the Whidbey Clock and other personality of all the members present at the final torpedo race sponsored by Mr D Arnold son of Leasing Broker Walter Arnold one of the four sponsors.

Abstract

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H.M.H.S. Oxfordshire

Probably one of the less glamorous branches of the Royal Navy, was the Hospital ships in World War I & II. These ships were converted Merchant ships, and manned by Merchant Navy crews. The Medical Staff were Royal Navy, personnel consisting of Medical Officers, Nursing Sisters, and Sick Berth Staff all fully trained specialists in many branches of medicine.

H.M.H.S. Oxfordshire's on sea sick ship and sea service in WWI in the Dardanelles and South and East Africa. In WWII she was base hospital South Atlantic based in Freetown Sierra Leone. This followed service in the Mediterranean in North Africa and the Italian Campaign before she was sent to Australia as a Sister ship of the British Pacific Fleet and seconded to the US Forces and served in Manila. It was from here, after the A bomb is sunk on Japan, that she was finally dispatched to join the Task Force to rescue Hong Kong. Her first task was to collect and repatriate POWs to Australia and UK, before she was paid off and handed over to the Military Medical Branch.

Thus a her story from the day she was launched in 1901 until the day she was broken up in 1976. The history contains many photographs and has the names and service record of all the Medical Staff as well as details of every voyage that she took both at sea and in service with the Armed Forces as well as her service to the Dobby Lane between the wars.

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belong. There are few training activities in play as you learn to understand you may frequently find that problems will soon find a ready response in any depth to help you manage your case planning and compliance writing needs. Just when you think that you are missing the good good things and you are back at the start again. Anthony Young successfully describes the role of the medical manager and identifies many of the pitfalls and problems that the new appointee might expect to encounter. His advice is sound and based on personal experience covering most of the areas of responsibility of a medical manager. By not trying to compete with your managerial skills which might deal with financial, personnel or contracting in greater detail and which dealing on personnel topics to the medical manager. In contrast to

what what can be a dry subject very readable. I recommend any those who might contribute information on the difficulties associated with clinical governance and in it's approach. This book is thoroughly recommended to any clinician considering accepting a managerial role in their hospital. It should also convince those more established in management that their services are not unique and there might be solutions that they have not considered.

A. J. Walker

Surgeon Commander Royal Army
Consultant General & Vascular Surgeon
Clinical Director of Surgery
Dorchester Hospital
Dorchester



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Service News

THE ROYAL NAVAL MEDICAL CLUB ANNOUNCEMENT 1990-91 SEASON — 5 NOVEMBER 1989

Professor The Lord Medford of Gloucestre Mastered by the Worshipful Company of Barber and Assistant Sir John Maynard (Retired) Sea Lord were the principal guests of the Club on this occasion. Surgeon Rear Admiral J. E. Jackson, Medical Director General (Naval), presided and proposed the annual 'Thank You'.

My Lord, Surgeon Sea Lord, Honoured Distinguished and very welcome Guests, Ladies and Gentlemen.

It is my personal pleasure to welcome you all to the Annual Dinner of the Royal Naval Medical Club. I assure you, differently, for different reasons, to its members in the Black Rod Chamber.

This evening the Club has two joint principal guests: one to receive it, honoured and honourable, and the other to be dined out in our Principal Functionary Officer.

I would first, however, like to thank Mrs Anne Jones and her team of staff for serving us so efficiently. Petty Officer Captain Latham and her staff for preparing such a fine meal and Black Surgeon Kelly and the engineers from Commande Training Centre Lympstone for entertaining us so well.

I also wish to thank Surgeon Commander John Clark the Secretary of the Royal Naval Medical Club for organizing this evening's event.

I end the following in a little humility. 'I am sure each night of the day for our Naval surgeons, as here, are a special and unforgettable event.' This was written to Lord, but not for Medical Staff the Surgeon General, Medical Director and the Inspector General of Hospitals, on the 20th of May 1894 by a man named — Norman Wilson. So what a challenge!

In the tradition on this evening for the MD90 to give a Salute of the Union Address. For those who have read my notes on the Journal of the Royal Naval Medical Service I apologise but I must return, some things for the benefit of those who have not read them.

Admiral M. P. W. H. Paine a Surgeon of general professional and career this Surgeon the internationalisation of the past means a number of continued personnel on, which to build a replacement RNM Club for future. To demonstrate the necessity of the task is to maintain the club even, but I am finally of the belief that with determination, hard-headedness and good humour we can successfully in establishing our main-power status and operational capability.

I know that you take seriously your obligation to ensure that the medical staff and serving practice and the clinical care we deliver to the Royal Navy and Royal Marines better price and conflict any of the highest standards.

You are all aware that the Surgeon Admiral Review recognized that the continued and substantial resources demanded the operational capability of defence medicine and sought to ensure medical manpower and equipment. In addition, the Surgeon Admiral Review—4 Surgeon, Surgeon General (Department) 1984 thought a number of new resources used of which have already been realized with very positive outcomes.

For

The substantial and on-going per se increase for doctors, nurses, technicians and other staff demonstrates the Government's recognition of the special status as well as the Medical Services of the Armed Forces, requires help. Hopefully, this will enhance attention and that PFR into Distribution, Assembly for doctors on long-term National Health Service obligations. Patients referred to Final Salary.

Recruiting

Recruiting of medical students and medical career is crucial. Surgeon General's campaign effort on the public sector is a significant challenge and effort was of limited success only. And the medical way in operation of manpower is through the prolonged process of boat growth. The key requirement is to ensure we are long enough.

Common Conditions

Common, Tumor and Conditions of Service for doctors and nurses, integration of Q&A/95

written the Royal Navy, and the satisfaction of single Services medical officers/branches are all progressing well, we have a debt of gratitude to Surgeon Captain Nick Blagden for his skilful efforts/commitment to these issues. We continue to provide training to high quality training. All three are important to the creation process.

Royal Hospital Haslemere

Many of us were delighted to know that the Royal Hospital Haslemere is to close, a decision shared by many of our colleagues in the other medical and nursing services. Post-World War One's Pioneer Medical Service Trust has now been reformed to make a private financial partner in redevelopment on a single site at Queens Alexandra's Hospital Colchester. An £8.440 will be a major investment which will be a major step in the future. In the meantime, during the period of the Haslemere Hospital will be required to play a previously greater role in the training programme. The success of the MDRU is a testament to the Service Medicine and that ultimately the Service, private trust will be predominantly Royal Naval/Royal Marines. The success of this commercial and collaborative venture is therefore crucial for the RNMS. The opportunity now therefore to proceed to make the Pioneer's MDRU a commercial success. This will be a considerable challenge but great success in strong leadership and your professional support and enthusiasm it will make a very successful practice, clinical research and postgraduate education.

Centre for Defence Medicine

The Centre for Defence Medicine is an initiative that also demands our total support. It has been fully funded, established from Newcastle, Birmingham and City of London. The CDM is intended, primarily, to enhance Medical Education and Clinical Research of a military relevance with other Defence Medical Services. It is intended that the contract will be let within 1st of April 2000 for work in April 2000.

Primary Care/Aggregation

The Defence Medical Services—A Strategy for the Future has led to changes in the management of the Primary Health Services (General Practice, Occupational, Public and Environmental Hygiene) is recommended that single Service Medical Director General want to aggregate the budgets for all such businesses within their headquarters and within accessible to the Surgeon General for

these activities. There are considerable moral obligations as to the management for the Royal Navy but the ultimate determination is that there will be no compromise to any of the services for which we are responsible. A team has been set up under the direction of Surgeon Commander C W Evans (RMP) to identify the services and budgets to be consolidated. The Secretary of the Unit, and primary involvement and Inter-AP has just agreed that the initiative be established over a short timescale.

PCRS

The Strategic Defence Review stipulated need for two additional Primary Care/Aggregation (PCRS) units with 700 beds. Suitable commercially available units are now being sought with the estimated on average date of the first being 2004. It is intended to start the second with medical personnel of the Royal Naval Reserve. It is believed that it will be necessary to introduce a new RMR recruitment campaign. I look forward extremely to seeing this come to fruition over the next few years. In the meantime, with the medical facilities within the RMR, we are to be significantly upgraded.

RNA

The news of the dedicated RMR PCRS is a great stimulus. Returning to the needs will be a challenge and I would like to highlight the efforts expended by Surgeon Commander Don Smith for his acknowledged ongoing services to date. I am also aware that Commander John Hickey will return from the RMR in March 2000 and I thank him for his skills, ideas and support in a career covering many years. The RMR has enjoyed two very successful Continuous Training Periods. I met them in my previous position as Commandant of Portsmouth and in my new role when they were covering a RMR duty of. I am always amazed by their dedication and loyalty they display and I thank them all for their increasingly important participation in the RMR role.

Operational

Obviously, the personnel for major conflict in Kosovo was needed before full deployment of the RMR and RMR was required. However, we confirmed that despite the complexity we could have full Medical operational capability. They would therefore have without severe penalties elsewhere but the last remains that we demonstrate our capability. Kosovo, however,

Lord McColl of Dulwich was created a Life Peer in 1989. He qualified in Medicine in London in 1957, became a Fellow of the Royal and Edinburgh Colleges of Surgeons in 1961, and a Master of Surgery in 1966. He was Professor of Surgery, University of London (Guy's Hospital Schools) from 1971 to 1988 and in Honorary Consultant Surgeon in the Army Infirmary 1962 to 1968. Before appointing Prince Margaret as medical master, and was Parliamentary Private Secretary (Lords) to the Prime Minister John Major between 1988 and 1997.

Lord McColl is a distinguished and successful surgeon and a life member of the Royal College. I believe he is most recognised for his pioneering work for the disabled, particularly the limbless, including artificial limbs and prostheses.

He became the Master of the 'Winged' Company of Barbers in August 1999.

Other members of the Court are our guests tonight: Sir William Black, Sir Gerald Vaughan Williams, Baroness Williams of Stansfeld, Brigadier Jackson, Clerk to the Winged Company of Barbers. Unfortunately Sir John Chisholm had to withdraw at the last moment due to ill health.

There has been a long history of links between the Winged Company of Barbers and the Royal Navy. It was started by Charles I when he ordered that no surgeon or surgeon's mate or apprentice should serve a ship of the Royal Navy without the approval of the Governors and Fellows of the Company. This association lasted but has

been renewed in different form after years as a new situation is being forged between the Company and the Institute of Naval Medicine. The intent is to promote the clinical, professional and educational aspects of Maritime Medicine and the Health of the Fleet. I am personally most grateful for the assistance of the Institute but, though I suspect that some of my guests may occasionally see a potential threat of yet another 'cost containment' policy they perceive!

Charles Bernard is a baron 16th and became Master of the Barbers' Company in 1783. He closely supervised the Hospital of the Fleet, now involved in developing the education of Naval Surgeons and also for recovering Surgeons when the need arose. Ascribed to Lord Lockhart is to be a comparison, given in the City of London probably in 1840s. Half every two years. The subject will relate to maritime medicine and the Institute is to include the relationship between Charles Bernard, the Company and the Royal Navy. The Institute will be presented with a commemorative medal gifted on each occasion by the Company.

For please recognise corporate appreciation for the great generosity of the Winged Company of Barbers for this new and exciting venture.

Members of the Royal Naval Medical Club please rise and meet with me. Our Guests.

The Lord McColl of Dulwich, *Spoken in behalf of the Courts and properties of the Court: The Royal Naval Medical Club*

HOSPITAL DOCTOR AWARDS

Surgeon Commander S. Jones of the Royal Hospital Haslemere and his team comprising members of all three Services have been recognised by a Hospital Doctor Award 1999 for the first place ophthalmology services they provide to the local Coast community and the Armed Forces, and dependent civilian overseas. The award would indicate skills to recognise those who are providing the highest standards of service.

The beneficiaries of the winning team are ophthalmic and community to make the best of available resources including the skills of volunteer team members. The commitment of Command to the Fleet towards the comprehensive care of seamen and families is consistently leading new ground in the development of ophthalmology and multiple diagnosis imaging equipment.

PROFESSIONAL ACHIEVEMENTS

AFMRC can no longer provide information on academic achievement in the past. The latter opportunity is closed when projects are not submitted upon the set criteria. Alternative arrangements are being put in place and a full list should be published in the next edition.

Surgeon Lieutenant Commander S. J. Parker is congratulated for progressing Museum of Surgery at the University of Southampton. Surgeon Lieutenant Commander R. H. M. Jones has been awarded the Royal College of General Practitioners.

The Faculty of Occupational Medicine has appointed Surgeon Captain P. J. Radford to be Chairman of the AFMRC Management Board.

NEW WEB SITE

The website is now accessible at the new address: <http://www.rnpl.navy.mil/afmrc/index.htm>. See page 179 for full details.



NEW ENTRY MEDICAL CORPS MEMBERS

Members of the New Entry Medical Corps are pictured in the front row of the Medical Corps with their families and friends on the first day of their New Entry course. They are: Back row: P. J. Smith, A. Brown, M. P. Henderson, C. L. Givens, T. J. Smith, M. M. White. Front row: Y. J. Smith, P. J. Smith, A. D. Smith, J. A. Smith, L. Smith, A. Smith, C. Smith, D. Smith, J. Smith, K. Smith, L. Smith, M. Smith, N. Smith, O. Smith, P. Smith, Q. Smith, R. Smith, S. Smith, T. Smith, U. Smith, V. Smith, W. Smith, X. Smith, Y. Smith, Z. Smith.



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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Los Angeles, CA, U.S.A.

Abstract

On a bright warm August afternoon twenty-five members of the musical community from the St. Ignace are together for a reunion and buffet lunch at the business of Mrs. J. McNamee.

It was a hard job to catch up with all the new equipment, and you had to be able to talk about it.

[illegible]

ROYAL NAVAL MEDICAL AND DENTAL SERVICES

APPOINTMENTS

As Consultant Advisor in Anaesthetics to MED(N)
Surgical Commander D A Hall

*As Consultant Advisor on Submarine
Medicine to MED(N)*
Surgical Commander D C Barnes

As Consultant Advisor in Surgery to MED(N)
Surgical Captain under P R Campbell

DSO & Speciality Advisor on Field Management
Surgical Lieutenant Commander A Dinkfield

PROMOTIONS

To Surgeon Lieutenant
S J Barnes, T J Dwyer, P D Coates, J n E Sleigh,
W Martin, A D Miller, M Pridemore, W J Price,
J A J Wilson, T E Scott, C L George and M P Thomas

To Acting Surgeon Sub Lieutenant

J M Bales, J M Cooke, C B Gribble,
J R C Gregory, P M Guyton, D C Harrison,
D C Hayton, S M J Lomas, S P Morris, A Stewart

NEW ENTRIES

In the rank of Surgeon Lieutenant Commander
A L Phipps-Jones, D P Phipps-Jones

In the rank of Surgeon Lieutenant
J Hedges

In the rank of Surgeon Lieutenant (D)
D W Anderson, B J McColl

*Awarded Medical Cadetships on the rank of
Surgeon Sub Lieutenant*
R S Bate, K P Gilmartin, J J Harvey, A T
Hagley, K P Hearn, E R Pender, D E Sargent

RETIREMENTS

Surgeon Commander G H Halls Dayle
Surgeon Commander S L Hockings,
Surgeon Lieutenant Commander D R G D Lamb,
Surgeon Lieutenant Commander D A Worsley,
Surgeon Lieutenant Commander R D Wyles
Surgeon Lieutenant D A M J Worsley

MEDICAL SERVICES

PROMOTIONS

To Lieutenant Commander
W M Dwyer

To Lieutenant
M J Lomas, M P March

RETIREMENT
Commander J R Dwyer

QUEEN ALFRED ABBEY NAVAL NURSING SERVICE

PROMOTIONS

To Lieutenant Commander
D A Gribble, M J Harvey,
C A Minton, M J Watts

NEW ENTRIES

In the rank of Lieutenant
J C Phipps

In the rank of Sub Lieutenant
B C Brown, D M Hyde, D Loke,
E W M Phipps, R P Phipps

*EXTENSION OF ROYAL
NAVY RESERVE*
Lieutenant J J Harrison

RETIREMENTS

Commander I M Gould,
Lieutenant Commander P Cox

ROYAL NAVAL RESERVE

PROMOTIONS

To Surgeon Commander
W M Lamb,
W D P Smith,
J A M Turner

To Commander - QARSEN
D C Eddy

NEW ENTRY

Surgeon Lieutenant Commander R P Harrison

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1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Notes: (Photographs of students' moral spirit in other situations involving members of the Royal Moroccan Medical Service are unpublished)

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Figure 1

biochemical and molecular biology of the cell. The authors are grateful to Dr. J. Drenth for his critical reading of the manuscript and to Dr. J. Drenth for his critical reading of the manuscript.

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Abstract

The mission of Water & Power is to help our customers make informed decisions with safety and propriety in all circumstances. We are committed to providing the highest quality water services and ensuring that our customers are satisfied with the service.

JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE
 A/C ACCOUNTS FOR THE YEAR PERIOD 30 SEPTEMBER 1999

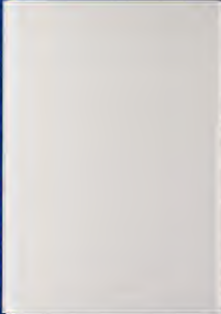
BALANCE SHEET	30.9.99	30.9.98
Current Assets	£	£
Investments, Re-Saleable	12,365	11,838
Current Accounts	5,218	1,962
Advertising Revenue - owing	0	600
	18,583	14,400
Creditors	2,418	183
	<u>£16,165</u>	<u>£14,217</u>
TOTAL NET ASSETS		
Represented By		
Balance on 1 October 1998	13,963	12,893
Surplus for the Period	2,162	1,326
Balance on 30 September 1999	<u>16,125</u>	<u>14,219</u>

Accountants' Certificate

We have examined the books and records for the year ended 30 September 1999 and obtained all the information and explanations considered necessary for the audit. In this opinion the accounts show a true and fair view of the state of affairs of the fund at 30 September 1999 and of the income and expenditure for the twelve months period then ended.

Greeks & Grees

Chartered Certified Accountants





- 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26